DOCUMENT RESUME

ED 076 062 40 EM 011 118

AUTHOR	Boone, Daniel R.; Prescott, Thomas E.
TITLE	Application of Videotape and Audiotape Self-Confrontation Procedures to Training Clinicians in Speech and Hearing Therapy, Part II. Final Report.
INSTITUTION	Denver Univ., Colo. Speech and Hearing Center.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
BUREAU NO	152310
PUB DATE	15 Sep 72
GRANT	OEG-0-70-4758(607)
NOTE	216p.; See also ED 064 963
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	Feedback; Hearing Therapists; Hearing Therapy; Instructional Aids; Instructional Programs; *Phonotape Recordings; Program Descriptions; Rating Scales; Scoring Formulas; *Self Evaluation; Speech Therapists; Speech Therapy; *Therapists; *Training; *Video Tape Recordings
IDENTIFIERS	Self Confrontation

ABSTRACT

Four years of work on a technique designed to improve the training of speech and hearing therapists are summarized here. The technique reported involves the use of audiotapes and videotapes to allow the trainee to observe himself in therapeutic interactions along with a series of scoring systems to provide quantitative data about therapy. Appendixes include the questionnaire items involved, the scoring manual, and a journal article about the research. (RH)

To ERIC
PA 40

ED 076062

FINAL REPORT

Project No. 152310
Grant No. OEG-0-70-4758 (607)

SCOPE OF INTEREST NOTICE
The ERIC Facility has assigned this document for processing to: EM | EC
In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

APPLICATION OF VIDEOTAPE AND AUDIOTAPE SELF-CONFRONTATION PROCEDURES TO TRAINING CLINICIANS IN SPEECH AND HEARING THERAPY, PART II

Daniel R. Boone, Ph.D., Project Director
Thomas E. Prescott, Ph.D, Project Coordinator

Speech and Hearing Center
University of Denver
Denver, Colorado 80210

September 15, 1972

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Division of Research
Bureau of Education for the Handicapped
Office of Education

EM 011 118

FILMED FROM BEST AVAILABLE COPY

ED 076062

FINAL REPORT

Project No. 152310
Grant No. OEG-0-70-4758 (607)

APPLICATION OF VIDEOTAPE AND AUDIOTAPE SELF-CONFRONTATION PROCEDURES TO TRAINING CLINICIANS IN SPEECH AND HEARING THERAPY, PART II

Daniel R. Boone, Ph. D., Project Director

Thomas E. Prescott, Ph.D, Project Coordinator

Speech and Hearing Center
University of Denver
Denver, Colorado 80210

September 15, 1972

The research reported herein was performed pursuant to grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Division of Research
Bureau of Education for the Handicapped
Office of Education

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

TABLE OF CONTENTS

page
INTRODUCTION 1

RELATED RESEARCH 3

REVIEW OF PREVIOUS PROJECT FINDINGS

    1969 Project 7
    1970 Project 9
    1971 Project 11
    Prescott Study 1970 13
    Olsen Study 1972 16

CURRENT YEAR PROJECT

    Methods and Findings 20
    Dissemination
        Dissemination Activities 1970-71 20
        Dissemination Activities 1971-72 24
    Application Phase 1972 33

SUMMARY 34

BIBLIOGRAPHY 35

APPENDIX A - Chicago Q-Sort Items 50

APPENDIX B - Denver Q-Sort Items 53

APPENDIX C - Self-Perception Questionnaire 56

APPENDIX D - Self-Confrontation Questionnaire 57

APPENDIX E - Double Self-Confrontation Questionnaire 60

APPENDIX F - Speech and Hearing Therapy Scoring Manual 61

APPENDIX G -"Content and Sequence Analyses of Speech and Hearing Therapy"

INTRODUCTION

For the past four years the investigators have been studying the use of videotape and audiotape in the clinical training of speech and hearing clinicians. While each of the first three years has been summarized individually in separate reports, this report will attempt to draw together and summarize the four individual but related projects.

The initial project (An experimental Study of the Clinical Acquisition of Behavioral Principles by Videotape Self-Confrontation; Project No. 4071, Grant No. OEG-8-071319-2814) was carried on by Boone and Goldberg (1969) and attempted to answer questions pertaining to the following three hypotheses:

> "1. Videotape self-confrontation procedures coupled with principles of behavioral therapy are feasible and practical methodologies for training communication and communication disorder specialists;
> 2. Self-confrontation procedures differ significantly from more traditional training approaches in their effects on the development of clinical skills;
> 3. Single and double self-confrontation procedures differ significantly from each other in their effects on the development of clinical skills."

The second project (The Development of Clinical Skills in Speech Pathology by Audiotape and Videotape Self-Confrontation; Project No. 1381, Grant No. OEG-9-071318-2814) was reported by Boone and Stech (1970) relative to the following four research questions:

> "1. Are videotape self-confrontation (single and double confrontation) procedures practical and efficient methods of improving the self-awareness of developing speech clinicians?
> 2. Does the dissection of therapy segments through self-confrontation provide the student clinician insights into better use of operant methodologies in his therapy as compared to conventional methods of developing these skills?
> 3. Is audiotape as effective as videotape for studying oneself and what one does in therapy?
> 4. Can supervisors be trained to employ videotape derived matrices developed in the first year of the project and employ them as supervisors with student clinicians?"

The third year project (Application of Videotape and Audiotape Self-Confrontation Procedures to Training Clinicians in Speech and Hearing Therapy; Project No. 1412, Grant No. OEG-0-70-4758-607.) consisted of a dissemination phase, an application phase, and a research phase. Boone and Prescott (1971) summarized this work and reported that they:

1. Organized and conducted a conference in Denver, Colorado, entitled, "Videotape and Audiotape Confrontation in Clinical Training." The partial aim of that meeting was to disseminate the findings of previous research.
2. The application phase involved training, cataloguing, and utilization of all confrontation methodologies developed in the previous projects.
3. The aim of the research phase was toward determining variables that could be used to predict changes resulting from audio confrontation and video-audio confrontation utilizing both a ten category system and a video-audio nineteen category system.

Finally the report for the current year of study, an extension of the 1971 project, will be incorporated into this report, Application of Videotape and Audiotape Self-Confrontation Procedures to Training Clinicians in Speech and Hearing Therapy, Part II (Project No. 152310, Grant No. OEG-0-70-4758 (607).) The purpose of this final year was to apply and disseminate findings from previous investigations specific to the use of videotape and audiotape confrontation in clinical training.

RELATED RESEARCH

Numerous writers have suggested that beneficial effects such as self-insight, ego development, and self-understanding may be the result of self-confrontation (Miller, Isaacs, and Haggard, 1965; Freud, 1946; Gottschalk and Auerbach, 1966). Confrontation of self-utilizing recording devices, audio- and videotape playback, have been employed in the training of counselors (Ivey, Normington, Miller, Morrill, Haase, 1968; Poling, 1965; Walz and Johnson, 1963), therapy with mentally ill patients (Stoller, 1967; Moore, Chervell, and West, 1945; Boyd and Sisney, 1967), the teaching of interaction skills (Haines and Eachus, 1965), as well as the teaching of public speaking (Dieker, Crane, and Brown, 1968; McCroskey and Lashbrook, 1968).

Goldberg (1960) reported that self-evaluation was more likely to be of benefit to individuals than external evaluation. Related to Goldberg's conclusion was the finding of Dieker, Crane, and Brown (1968) that students who actively participated in some form of self analysis during the self-confrontation experience on videotape benefitted more from the experience than students who merely viewed themselves passively.

Research relating to the impact of self-confrontation has been reported by several investigators. Holzman and Rousey (1966) reported the results of a research study on the voice as a percept. Holzman, Rousey, and Snyder (1966) found that subjects listening to their own voices showed a greater physiological activation and a constriction in free association. Braucht (1968) has shown that the most potent effect of videotape confrontation with emotionally disturbed subjects is an improvement in self-perception accuracy when accuracy is defined as the discrepancy between self-ratings and ratings by others. On the basis of observations, tape recordings, and films Nielsen (1962) reported that self-confrontation forced subjects to revise self-concepts, often causing them to modify behavior.

Research in the area of verbal conditioning lends support to the supposition that behavior can be modified through social reinforcement. Extensive reviews of the verbal conditioning literature can be found in Greenspoon (1959), Krasner (1958, 1962, and 1965) and Williams (1954).

Although television has been used in clinical speech training programs (Aronson and Irwin, 1960; Wood, 1965; O'Neill and Peterson, 1964; Diedrich, 1966; Clifford, 1968), little if any research has been reported dealing with the effects of videotape self-confrontation in the preparation of speech clinicians. Although there is little in the way of quantitative research in the clinical training area, the speech pathology literature contains worthwhile articles on therapeutic procedures (Jakobovitz, 1966), therapy programs (Ruben, et. al., 1967), specialized training methods (Holland and Matthews, 1963), and therapy processes (Cooper, 1968). In 1967, the entire December issue of Asha was devoted to the problem of clinical supervision. In this issue, Miner identified general problems associated with the training of therapists in clinical skills; Prather supported client oriented supervision as opposed to clinician oriented supervision, and Kunze recommended behavioral recordings as an aid in evaluating therapy procedures. Kunze felt that unlike impressionistic reactions, behavioral recordings can preserve data, allow for the direct comparison of non-contiguous sequences, prevent the distortion that can occur when too much emphasis is placed on vivid but isolated events, and reduce observer bias.

In 1964, Halfond urged those involved in the training of clinicians not to downgrade the role of the supervisor. A year later, Van Riper (1965) recommended a supervisory system that involves a number of major and minor conferences between supervisor and trainee.

An elaborate description of training needs and techniques was provided by Ward and Webster (1965a and 1965b). Ward and Webster suggested that a trainee's needs and anxieties could inhibit his progress. They stressed the importance of giving a student clinician insight into his behavior as a therapist so he can modify his performance and experiment with new behaviors.

Ingram and Stunden (1967) conducted one of the few published research studies in the clinical training area. The two investigators demonstrated that training in speech therapy can result in statistically significant changes in a trainee's responses to such words as: teaching, rapport, helpful, acceptance, motivation, empathy, feelings, and communication.

In a discussion of behavioral principles and speech therapy, Holland (1967) suggested that the success of some clinical techniques can be explained in behavioral terms; that is, such principles as reinforcement and shaping can be viewed as ways of employing behavioral approaches in clinical settings. The present investigation examined the usefulness of behavioral principles in the training of clinicians. Instrumental or operant conditioning refers to learning in which the organism is reinforced for emitting certain predetermined responses. Reinforcement may consist of reward, non-reward, or punishment. In those cases where it is desired that the organism emit a particular response that it is capable of making but which is not in its behavior repertory, response is "shaped" into the repertory.

Recent application of operant conditioning techniques in psychological therapy situations suggests that such techniques provide a powerful method for modifying behavior. The origin of these techniques in experimental psychology date back to Thorndike's early work (1911) on trial-and-error learning in animals. However, the most recent and relevant laboratory work in instrumental conditioning has been conducted by Skinner (1938, 1953, 1961). Working primarily with rats and pigeons, Skinner has developed a research environment (the Skinner Box), a behavioral unit (response frequency), and a reinforcement system which provides the framework for instrumental conditioning (Ferster and Skinner, 1957; Skinner, 1938). These techniques have been successfully applied in the development and use of teaching machines and programmed instruction (Holland and Skinner, 1961; Skinner, 1954,1958, 1961).

The first contemporary study reporting the use of instrumental conditioning in a therapy setting was published by Skinner, et. al. (1954) who placed psychotic patients in what amounted to a human-sized Skinner Box (a room containing vending machine equipment designed and programmed to dispense reinforcers such as candy and gum when handles on the machines were depressed). Patients who responded by operating the equipment in order to gain rewards would, in this manner, be brought back into contact with their environment. Early findings indicated that high, steady response rates could be established in patients who previously had shown little inclination to interact with their environment. Subsequent studies using similar settings have been reported by Ferster and DyMeyer (1962); King, Armitage and Tilton (1960); and Lindsley (1965).

The cost of vending, recording, and programming equipment in the above cited studies was very great. However, subsequent investigators have found that effective behavior modification through instrumental conditioning can occur without the use of complex, expensive equipment.

The literature contains some dramatic examples of instrumental conditioning. Working with two hospitalized psychotics who had been mute for 19 years and 14 years respectively, Isaacs, Thomas, and Goldiamond (1960) were able to reinstate verbal behavior in six weeks by using chewing gum as reward reinforcement. One patient was first rewarded for merely looking at the gum, next for making lip movements, then for making sounds, and finally for repeating the word "gum". The second was originally given gum for joining a therapy group, and finally for participating in group interaction.

Behavior recording and classification were included in the previous videotape confrontation research at the University of Denver, (Boone and Goldberg, 1969; Boone and Stech, 1970; Boone and Prescott, 1971) all supported by the Bureau of Education for the Handicapped, Office of Education. A ten category system was developed (Stech, 1968) and was modified by Boone and Prescott (1971). These systems are used to analyze therapy tapes in order to evaluate the sequence of clinician and client behaviors.

The speech therapy behavior category system was developed on the model of the interaction analysis systems currently in use in the area of teacher training (Amidon and Hough, 1967). Flanders introduced the first comprehensive system of recording teacher-pupil interaction (Flanders, 1960) although earlier systems had been devised and applied (Withall, 1949; Anderson, 1939; Smith, 1960; Aschner, 1959; and Medley and Mitzel, 1958). Subsequently Amidon and Hunter (1967) extended and refined the system and dubbed it the Verbal Interaction Category System (VICS).

Since the introduction of the Flanders system, numerous studies of teacher training and behavior change have been performed (Amidon, 1966; Amidon and Flanders, 1961; Amidon and Giammatteo, 1965; Hough and Amidon, 1965; Hough and Ober, 1966; Hough and Amidon, 1967; and Lohman, Ober, and Hough, 1967). Almost without exception the research has shown that the feedback of interaction data to a teacher or clinician, whether a student teacher or clinician or an in-service experienced teacher-clinician, results in behavioral change. Because the category system deals with specific behaviors and because the data matrix shows graphically the actual consequence of various teacher-clinician behaviors, the feedback of observed interaction is easily understood by the teacher and behavior changes can be made rather easily.

In summary, the literature indicates that self-confrontation, utilizing video- and audiotape, is a powerful device for modifying behavior. Previous research shows that beneficial effects are the results of confronting oneself with one's own performance or behavior. Previous application of these techniques to the training of speech and hearing clinicians has been limited. The investigations being summarized in this report (Boone and Goldberg, 1969; Boone and Stech, 1970; Boone and Prescott, 1971; and Boone and Prescott, 1972) demonstrate the usefulness of this procedure for the training of speech and hearing clinicians.

REVIEW OF PREVIOUS PROJECT FINDINGS

1969 Project

In the initial year of study (Boone and Goldberg, 1969) the following research statements were expressed:

> "The experimental phase of the investigation was designed to determine the value in training communication disorder specialists in VTR self-confrontation feedback methods. The study tested the following hypotheses:
>
> 1. Videotape self-confrontation procedures coupled with principles of behavioral conditioning are feasible and practical methodologies for training communication disorder specialists.
> 2. Self-confrontation procedures differ significantly from more traditional training approaches in their effects on the development of clinical skills.
>
> A third hypothesis dealt with double confrontation. Feedback theory suggests that if individuals are given information about their past performance, they are likely to attempt to reduce the discrepancy in the future between their actual and their intended behavior. If this is so, the effectiveness of VTR self-confrontation might conceivably be enhanced by confronting individuals not only with a playback of their past performance but with their own reactions to themselves as well. That is, if an individual sees himself seeing himself, he could become more aware of the discrepancy between how he behaved and how he felt about it, and this greater awareness might facilitate the learning or change process. A double self-confrontation procedure was developed to determine the effects of observing oneself observing oneself and the following hypothesis was tested:
>
> 3. Single and double self-confrontation procedures differ significantly from each other in their effects on the development of clinical skills."

Most of the measuring devices used for studying the above hypotheses were developed specifically for the project. The instruments included:

(a) The Chicago Q-Sort (Dymond and Rogers, 1954) was designed to measure changes in self-acceptance. This tool was used to compare control to experimental subjects relative to their sorting performance. The Chicago Q-Sort may be found in Appendix A.

(b) The Denver Q-Sort was developed by the project staff and was designed to show differences between a clinician's perceived actual performance and what he considered to be an ideal clinical performance. The Denver Q-Sort comproses Appendix B.

(c) A Self-Perception Questionnaire was developed by the project staff in the form of a semantic differential. This measure was used to measure a subject's feelings about himself following videotape self confrontation (see Appendix C).

(d) A Self-Confrontation Questionnaire was developed to measure the subject's feelings pertaining to his clinical performance following self confrontation (see Appendix D).

(e) A Double Self-Confrontation Questionnaire was developed and utilize to measure the effects of having subjects view themselves viewing themselves (see Appendix E).

(f) A ten category scoring system was developed (Stech, 1969) and modified by Boone and Prescott (1971) that allowed each subject to categorize each therapy event observed in one of ten ways. A manual for utilizing this system, as well as other scoring systems, developed by Boone and Prescott (1971) is included in this final report (Appendix F).

The findings of the first year project, 1969, are summarized below.

(a) The results obtained from the Q-Sort data indicated that the Chicago Q-Sort was not a sensitive measure of the changes that occurred, for the subjects studied, as a result of videotape self-confrontation. The Denver Q-Sort proved to be an interesting and worthwhile instrument. It was noted that the experimental subjects tended to preserve the distance between their perception of "self as a clinician" and their perceived "ideal" clinician. This preservation of distance between "self" and "ideal" was not noted for the control subjects who demonstrated a convergence between their perception of the "self" and "ideal" clinician. These results were interpreted to indicate that the self-confrontation experience is one that tends to keep an individual "reality oriented" in terms of a comparison between actual performance and ideal performance.

(b) The results of the Self-Perception Questionnaire indicated that the subjects studied did not change their perception of self more under double confrontation conditions as compared to single confrontation conditions. It was concluded that single confrontation was an effective tool for changing a person's self-perception and that the added expense and effort needed to employ double self-confrontation procedures could not be justified.

(c) The Single Self-Confrontation Questionnaire indicated that the confrontation experience tended, over time, to result in an elevated self-concept relative to the application of clinical procedures and behavioral principles.

(d) The Double Self-Confrontation Questionnaire results were interpreted by Boone and Goldberg (1969) as follows, "...the double self-confrontation was considered less useful than the single confrontation in terms of learning to become a therapist...."

(e) The results of the scoring matrix analyses indicated that a workable system had been developed. The system was sensitive to changes in the therapy sessions over time and was a reliable system. Boone and Goldberg (1969) concluded that, "The category system provided a useful form of information feedback transformation which allowed the therapist to evaluate and change his own behavior." One example of the behavior change observed, as a result of the self-confrontation experience, related to the scheduling of reinforcement by the clinicians studied. In general, the clinicians studied used initial positive reinforcement schedules and punishment schedules of approximately 100% and zero percent respectively. Both of these schedules moved dramatically in the direction of fifty percent as a result of the self-confrontation experience. Since the development of this initial matrix, more sensitive feedback ratios have been developed and used and are included in the scoring manual (Boone and Prescott, 1971) in Appendix F.

Utilizing a rank order correlation technique (Spearman's Rho) Boone and Goldberg (1969) demonstrated that the scoring matrix was a reliable tool. Both intra- and interjudge coefficients were above .90. Boone and Goldberg summarized their findings as follows:

> "All subjects, 20 experimental and 10 control, were tested on the same dependent measures before the project began and after it was completed. Ten of the experimental subjects were assigned to a single confrontation condition and 10 subjects were assigned to a double confrontation condition. In single confrontation, each subject was instructed to use a therapy matrix and to score his therapy session as he observed it. Each subject in the double confrontation session was videotaped while he observed and scored his therapy session. He then watched himself watching himself. The overall results of the investigation indicated that videotape confrontation was a powerful clinical training device. Of primary value was the development of the therapy matrix scale which provides both the trainer and the clinical trainee with a methodology for studying the clinical process and determining two persons' effects on one another. By use of the therapy matrix it was possible for the trainee to study the sequence of therapy events and the response effects of both himself and his client. The matrix, when used with videotape confrontation, was found to be most effective as a clinical training experience."

1970 Project

The 1970 project (Boone and Stech, 1970) was aimed toward comparing the effects of self-confrontation utilizing audiotape and videotape. The following research questions were asked:

"1. Are videotape self-confrontation (single and double confrontation) procedures practical and efficient methods of improving the self-awareness of developing speech clinicians?
2. Does the dissection of therapy segments through self-confrontation provide the student clinician insights into better use

of operant methodologies in his therapy as compared to conventional methods of developing these skills?
3. Is audiotape as effective as videotape for studying both oneself and what one does in therapy?
4. Can supervisors be trained to employ videotape derived matrices developed in the first year of the project as supervisors with student clinicians?"

The results relative to question one above confirmed the findings of the initial project (Boone and Goldberg, 1969) that single confrontation was indeed a valuable tool to be utilized for training clinicians. Double confrontation did not appear to yield different results from those obtained from the single confrontation exposure.

The results pertaining to the acquisition of operant methodologies as a result of exposure to self-confrontation (question two) demonstrated another aspect of the effectiveness of self-confrontation. All subjects were initially given a test containing questions about learning theory, behavioral modification, etc. Post testing in this area showed significant improvement revealing increased knowledge of terms such as "base rate", "reinforcement schedule", etc.

A major effort during the 1970 study was to compare audiotape self-confrontation to videotape self-confrontation (question three). A comparison was made between audiotape recordings and videotape recordings of therapy sessions by scoring the same session or sessions from both types of recording. This analysis indicated that, on the average, fifteen to twenty percent of the events contained in therapy sessions are nonverbal and consequently are missed from audiotape scoring. It is our opinion that audiotape scoring is, however, of great value in that it provides the clinician with considerable information relative to his clinical performance. Boone and Stech (1970) concluded that:

> "Whenever the audio and video groups were compared on basic change measures employed in this study, there were no significant differences found between the two groups. Such a finding seems to mean two things to the investigators: One, there is much that goes on in clinical training that the student in each group experiences outside the confrontation experience which contributes to a significant change in his therapy behaviors over time, and two, audiotape confrontation can be a most useful device in developing in clinicians an awareness of what goes on in their therapy sessions. Audiotape has a real place in the self-study of the verbal behaviors of a therapy session. Videotape seems to provide all that audiotape can, plus the important information relative to nonverbal behaviors."

Finally, question number four was directed toward use of the procedures developed as supervisory tools. It was concluded that the scoring system developed was applicable to the supervision process. The scoring system was relatively easy to learn and could be used reliably. The investigators further reported that, in their opinion, students could utilize self-confrontation and the therapy scoring matrix to benefit from self-supervision. Boone and Stech (1970) summarized their findings as follows:

> "In summary, audiotape and videotape confrontation both were found to be effective methodologies to use in the training of speech and hearing clinicians. Since the great majority of events within a speech therapy session is verbal in type, the audiotape playback will enable the clinician during confrontation playback to recognize the sequence of verbal events within the segment of therapy to be analyzed. With videotape confrontation the clinician gets the verbal feedback of his clinical session as well as the important nonverbal information (gesture, posture, etc.). By using a therapy matrix for scoring one's therapy session on either audiotaped or videotaped playback, the student is able to develop accurate insights relative to his function as a person and his demonstrated capability as a clinician. This method is applicable to clinical sessions regardless of their philosophical basis; i.e., operant, nondirective, etc.
>
> We might well add the audiotape recorder as a useful confrontation device in training clinicians. Audiotape confrontation further provides a useful and needed device for ongoing self-evaluation by practicing clinicians. Audiotape recorders are readily available to most speech clinicians and thus may be employed at no additional cost and with a minimum of additional time expenditure. Both audiotape and videotape confrontation could have important utilization in the training of professional personnel to work with the handicapped."

1971 Project

In 1971 Boone and Prescott (1971) continued research in this area with three specific aims in mind:

(a) To disseminate the findings of the previous studies (1969 and 1970);
(b) To apply the findings from the previous studies (1969 and 1970) to the training of speech and hearing clinicians at the University of Denver; and
(c) To study variables that may be used as predictors of change relative to three confrontation procedures: audio confrontation, audio-video confrontation ten category system, and audio-video confrontation nineteen category system.

To accomplish the dissemination phase of the 1971 project a conference entitled "Videotape and Audiotape Confrontation in Clinical Training" was held at the University of Denver. Participants for the conference were selected on the basis of interest in the area of discussion as demonstrated through work in the area of interest. Each participant presented a paper pertaining to his work in the area of interest with group reaction and interaction following each formal presentation.

A list of the conference participants with a brief overview of each presentation is included in the section Dissemination Activities of this report.

Further dissemination activities included the institution of work by Drs. Boone and Prescott on an article for publication as well as beginning work on a manual for training others to utilize the methodologies developed through these studies. Both the completed article and manual are included in the appendices of this report.

The findings and methodologies of these projects were presented either jointly or individually by Boone and Prescott to various groups throughout the year. The list of presentations is incorporated into the 1972 portion of this report.

Finally, a course was developed and added to the curriculum in the Department of Speech Pathology and Audiology at the University of Denver entitled "Seminar: The Clinical Process." The course was designed to incorporate methodologies, findings and theoretical formulations based upon the research projects reported in this manuscript.

The application phase of the 1971 project was accomplished by training all of the graduate students in the speech pathology program at the University of Denver to use and maintain the audiotape and videotape equipment and to learn the scoring systems and data summarization procedures.

In addition, the application phase included the videotaping and cataloguing of speech and hearing therapy sessions for classroom demonstration and instruction.

Finally, the research phase of the 1971 project was aimed at attempting to determine predictor variables relative to maximum change resulting from audio confrontation, audio-video confrontation ten category system and audio-video confrontation nineteen category system. The following is a list of the possible predictor variables that were correlated with change performance on the three confrontation procedures:

1. Previous clinical experience in clock hours.
2. Undergraduate grade point average.
3. Graduate Record Examination - Verbal score.
4. Graduate Record Examination - Quantitative score.
5. Rank as a clinician by four faculty members in speech pathology and audiology at the University of Denver.
6. Orientation Inventory Scale: S scale, I scale, t scale.
7. Minnesota Multiphasic Personality Inventory: K scale, F scale Hs scale, D. scale, Hy scale, Pd scale, Mf scale, Pa scale, Pt scale, Sc scale, Ma scale, Si scale, L scale.

Boone and Prescott (1971) concluded the following relative to the predictor variable results:

> "If one wished to predict change for any or all of the types of confrontation experiences described in this study the undergraduate grade point average can be derived from past records and requires no special testing; consequently, it is easily derived from information already available. Utilizing a method described by Downie and Heath (1959, p. 146) for averaging correlation coefficients the r's associated with grade point average for each of the confrontation conditions studied were averaged. The resulting mean correlation was .90. This value suggests that undergraduate grade point average is a good index of expected change from any of the confrontation conditions herein described."

Prescott Study 1970

In addition to the three projects previously summarized Prescott (1971) completed a doctoral dissertation in a closely related area. The aim of the Prescott study was to statistically compare differences in speech therapy sessions, as conducted by inexperienced and experienced clinicians doing therapy with patients who represented four parameters of communication disorder: voice, language, articulation, and prosody. To accomplish this aim Prescott expanded the previously described ten category scoring system to a nineteen category scoring system. The results of the Prescott study indicated that the nineteen category scoring system could be used reliably (above .90) and that differences needed to be explored relative to the sequences of events employed by experienced and inexperienced clinicians doing therapy with different communication disorder types. The nineteen categories and their definitions are included in the training manual incorporated into a later section of this report.

A question was also asked in the Prescott study pertaining to the relationship between the number of events at each matrix level and the time periods for events at each matrix level. It appeared possible that the tabulation of events at each matrix level might overlook valuable information about the therapy process relative to the timed element of therapy events. For example, two tabulated units in the Explain/Describe category could be timed to take thirty seconds and fifteen seconds respectively. When these events were tabulated they would have equal value even though one was twice that of the other in terms of timed duration. Prescott timed each event in the sessions studied and correlated the timed duration for each matrix level with the tabulated totals for each matrix level. The resulting correlation was .9202 and indicated that a high overall relationship existed between these values. The summary chapter of the Prescott study is here included:

CHAPTER V

SUMMARY

The review of the literature indicated a need for the development of a methodology for objectively describing the speech therapy process. Two previous studies attempted to develop category systems for describin the speech therapy process. Johnson (1969) developed a 40 category system for describing speech therapy sessions attempting to categorize speech therapy events; however, low inter-judge reliability coefficients appeared to limit the effectiveness of this system for describing speech therapy events. A second system was developed by Stech (1968) as a part of a study by Boone and Goldberg (1968). This ten category system was based on an operant conditioning model, providing a reliable approach for therapy categorization with only observed behaviors being scored. Personal experience with the system used by Boone and Goldberg indicated that a considerable amount of what may be important information is not obtained by the use of only ten broad categories. It appeared logical that a greater number of descriptive categories specific to speech therapy would yield more precise description of the speech therapy process.

The purpose of this study was:

1. to develop a behavioral matrix, based on a general operant frame of reference, that would allow for the quantification of behaviors within a clinical speech therapy session;
2. to examine the reliability of the behavioral matrix developed;
3. to examine and describe the behavior identified in speech therapy sessions.

To accomplish the above stated purpose a 19 category behavioral matrix was developed, based generally on an operant model, for describing speech therapy sessions that included one clinician and one client. The speech therapy sessions studied were conducted by graduate student clinicians in speech pathology at the University of Denver. These students were grouped relative to the type of communication disorder exhibited by the clients they worked with: prosody, voice, articulation, and language. From each of these four client subgroups, three student clinicians were randomly selected, resulting in a total of 12 subjects. Videotape recordings were made of each subject conducting speech therapy on a once a week basis for a period of five weeks. In addition to the previously described subjects, two faculty members in speech pathology at the University of Denver were selected and were considered to be "experienced"clinicians. Videotape recordings were made of one therapy session for each of these two subjects.

The videotape recorded speech therapy sessions were scored utilizing the 19 category behavioral matrix developed for this study. Each event was timed with a stop watch and the timed values for each behavioral event entered on the matrix score sheet in sequence. Twenty minutes of each therapy session was scored with the starting point for scoring randomly selected so as to provide both initial and final portions of the therapy sessions.

The results of this study indicated that matrix scoring was reliable. The intra-judge rank-order coefficient of correlation for the timed data at each ranked matrix level and the number of events at each ranked matrix level was 1.000 (sig. at .01) and .9429 (sig. at .01) respectively. Similar coefficients between judges ranged from .9364 (sig. at .01) to .9788 (sig. at .01) for the timed data and .9334 (sig. at .01) to .9364 (sig. at .01) for the number of events.

Rank-order coefficients of correlation were computed between the total time periods of events at each ranked matrix level and the total number of events at each ranked matrix level. This coefficient for all subjects combined was .9202 (sig. at .01) and for the individual subjects these coefficients ranged from .7848 (sig. at .01) to .9771 (sig. at .01). These data indicated a high relationship between the timed duration of events and the number of events for the speech therapy sessions studied. Therefore, the tabulating of events appears to provide sufficient descriptive information which can be efficiently obtained.

The timing of events allowed for parametric statistical comparisons to be made between the subjects included in this study at individual levels of the behavioral matrix. Analyses of variance measures were computed for each of the following matrix categories: EXPLAIN/DESCRIBE, POSITIVE REINFORCER (SOCIAL-VERBAL), CORRECT RESPONSE, INCORRECT RESPONSE, and INAPPROPRIATE RESPONSE. These five categories accounted for 80.52% of the total time periods for all categories combined, and each single category accounted for less than 5% of the total time periods for all combined categories. These remaining categories were not always used by all subjects for all sessions and resulted in blank cells which prohibited further analysis. These analyses indicated that significant differences existed between the subjects included in this study relative to individual category usage. The locus of these differences was determined by application of the Tukey test for significant gap. These data indicated that the matrix utilized in this study provided a method that could be used to determine statistically the presence or absence of differences between clinicians relative to category usage. These data further indicate a need, utilizing a larger number of subjects, for determining the similarities and differences between subjects who work with clients exhibiting differing types of communication disorders.

Application of the matrix utilized in this study indicated that base rate information specific to the clinical sessions studied could be obtained. Positive and negative reinforcement ratios were computed and indicated that, for these measures, the subjects included in this study were highly variable. The use to be made of information of this nature appears to depend upon the individual clinician and/or supervisor interpretation relative to the application of this objective information.

Two unit sequences of events were observed and these were subdivided into sequences resulting in client behaviors and sequences resulting in clinician behaviors. Only sequences that accounted for at least 1% of the total number of events were considered to make a relevant contribution to the sequences of events observed. Consequently, all sequences that accounted for less than 1% of the total number of events were not identified. Chi square values were computed for all of the response and clinician behaviors that contained at least one cell with 1% of the total number of events following clinician and/or client behaviors. These results indicated that the behaviors measured were not randomly distributed (chi square .01). The use of the behavioral events that were utilized by the subjects included in this study. These data indicated two unit sequences of events that were unique to the subgroup of subjects studied, as well as two unit sequences that were common to all of the subgroups studied. These data further suggested a need for future research, based on a large number of subjects, relative to the value of utilizing individual two unit sequences of behavioral events in terms of the differing types of communication disorders described in this study.

It was concluded that the data obtained from this study indicated that the matrix developed for this study provided a considerable and varied amount of objective descriptive information when applied to speech therapy situations. The methodology appeared to be a reliable one and yielded considerable information relative to the therapy sessions studied such as reinforcement ratio data, sequence of therapy events data, and data pertaining to clinician similarities and differences. This matrix method appears to have considerable future value for describing the clinical process in speech therapy, for the training of clinicians in speech therapy, for providing a method for evaluating clinical effectiveness, and for use in clinical research.

Olsen Study 1972

A doctoral study was completed by Olsen (1972) which compared sequential event differences between clinicians and communication disorder types. This study utilizes a computer program that identified two through six unit sequences contained in the therapy sessions under study. The program identified the sequence, the relative frequency of occurrence of the sequence, and the location of occurrence of each sequence within the session.

In a preliminary finding, Olsen correlated randomly selected five minute segments of therapy sessions to whole sessions. These correlations were all high (above .84) and indicated that five minute samples of a session are highly related to entire sessions. This finding allows for increased efficiency in employing the methodologies herein described because five minute samples can be validly scored, consequently resulting in considerable time saving for the scorer. The summary chapter of the Olsen study is here included:

Chapter 5

SUMMARY

A review of the literature showed the need for a direct, objective, and simple approach to supervision of student clinicians (O'Neill, 1964; Stace and Drexler, 1969; Prescott, 1970). Attempts have been made to categorize speech therapy objectively to assist the supervisor in determining how well the clinician and client are moving toward therapeutic goals (Stech, 1969a; Johnson, 1969; Prescott, 1970). It was determined that the best category system because of the high intra- and inter-judge reliability and the fairly large number of categories for descriptive data analysis.

Until this time there had been no study of category systems differentiating various parameters of speech therapy, or experienced clinicians from inexperienced clinicians, to give the supervisor and clinician some comparative data. The purposes of this study were: 1) To determine category totals and percentages, interaction ratios, and sequential patterns of interaction for experienced and inexperienced clinicians in four parameters of speech therapy using the Prescott Nineteen Category Scoring System. 2) To determine the relationship between a five and ten minute random segment of a therapy session and the entire therapy session as measured by the Prescott Nineteen Category Scoring System.

To accomplish the above stated purposes, four parameters of speech therapy were chosen for study: 1) articulation disorders, 2) delayed language disorders, 3) prosody disorders, and 4) voice disorders. Within each parameter three clients were seen by inexperienced clinicians and three were seen by experienced clinicians. Each client/clinician combination was videotaped for ten therapy sessions with the experimenter scoring the interactions of each therapy session from the videotape. This meant that in every parameter for experienced or inexperienced clinicians a total of 30 therapy sessions were analyzed. Experienced clinicians were defined as faculty members of the University of Denver Department of Speech Pathology and Audiology or graduate students who had worked at least six months in the field and had over 275 hours of clinical experience. Inexperienced clinicians were defined as graduate or undergraduate students who had less than 275 hours of clinical experience and had never worked in the field. The clients were chosen from the University of Denver Department of Speech Pathology and Audiology roster of those needing therapy.

Intra-judge and inter-judge reliability were obtained using the Spearman Rank Correlation Coefficient. The three intra-judge reliability studies were done over a six month period and were .90, .91, and 1.0 respectively. The inter-judge reliability was .94.

The results of the study showed that the Prescott Nineteen Category System was useful in determining differences between the four parameters of therapy studied and between experienced and inexperienced clinicians within any given parameter. Voice clinicians and prosody clinicians appeared to arrange therapy so that they received correct responses from their clients about 90% of the time while articulation and language clinicians arranged for correct responses from their clients about 75% of the time. This showed a meaningful difference in the use of the correct responses in therapy. Another category that differentiated the articulation and language clinicians from voice and prosody clinicians was the GOOD EVALUATIVE (TANGIBLE). With the child clients in articulation and language therapy, tnagible evaluatives included M&M's, cereal, and small toys while clinicians with adult clients in voice therapy did not use this category often. Within parameters there were differences between experienced and inexperienced clinicians, but there were no general trends that could be reported.

The five and ten minute random segments of therapy were compared to the entire therapy session through a Spearman Rank Correlation Coefficient for all twelve experienced clinicians to obtain correlations. The lowest correlation between a five minute segment and a full therapy session was .84 and the highest was .96. The ten minute random samples did not yield meaningfully higher correlations. It was concluded that the five minute random segments were representative of the entire therapy session. This meant that experimenters and clinicians could use five minutes of therapy for evaluation and be confident that their results would correlate highly with the scoring of an entire therapy session.

The sequential data analysis of two, three, four, five and six interactions demonstrated differences between experienced and inexperienced clinicians in the same speech parameter. Graphs showed that there were interaction patterns representing at least 5% of the total number of interactions in a therapy session at the four, five, and six levels tended to be repetitious of the two and three level interactions, such as 2318142318, where the first numbers were repeated at the end of the sequence pattern. There were no unique patterns at the six-level for analysis.

It was felt that the position of patterns in the therapy session might be another way of differentiating parameters or experienced clinicians from inexperienced clinicians. It was found that at all of the sequential pattern levels where patterns represented at least 5% of the total number of interactions in any therapy session, the patterns tended to distribute themselves throughout the therapy session.

The following implications were suggested by this study:

1. The Prescott Nineteen Category Scoring System gives clinicians an opportunity to self-evaluate therapy with only a short period of training requiring little time out of a busy schedule.
2. The system gives clinical supervisors objective measures of therapeutic communication that can serve as a basis for discussion with the student clinician. Such a system also gives the student clinician the opportunity to self-evaluate therapy. This would mean that there would be less need for direct supervision except for difficult cases.

3. The system also gives the clinical researcher the opportunity to study the effects of varying the use of certain categories such as GOOD EVALUATIVES on the learning process in speech therapy.
4. Modification of the category system to obtain detailed data within a given parameter can be accomplished by deleting some of the seldom used categories, and adding categories of interest, thus yielding information considered pertinent to the experimenter.

Generally, the Prescott Nineteen Category Scoring System showed sensitivity--within the therapy sessions studied--to category, ratio, and sequential data analyses procedures for showing differences between speech parameters and between experienced and inexperienced clinicians.

Both the Prescott and the Olsen studies demonstrated the utility of using a therapy scoring system. The scoring system was found to be an effective measure for confronting oneself after therapy, a tool for use by the supervisor, and a sensitive device for studying the clinical processes of speech and hearing therapy.

CURRENT YEAR PROJECT

The current year project was entitled "The Application of Videotape and Audiotape Confrontation Procedures for Training Clinicians in Speech and Hearing Therapy" and was a continuation of the previous project year, (Boone and Prescott, 1971). The purpose of the current year project was, "to apply and disseminate findings from previous investigations specific to the use of videotape and audiotape confrontation in clinical training."

Methods and Findings

To accomplish the application phase of the project the authors developed a workbook entitled, *Speech and Hearing Therapy Scoring Manual*, that described and detailed the various confrontation methodologies in clinical training. These methodologies were then applied with the clinical trainees at the University of Denver. In addition, the methodologies were utilized by clinicians in the field in various professional settings in and around the Denver area. A copy of the training manual, *Speech and Hearing Therapy Scoring Manual*, may be found in Appendix F.

Dissemination

To accomplish the dissemination phase of the project two major types of activities were carried on. They involved presentations by the project director and project coordinator and mailing of project publications to those who requested them. The authors attempted to disseminate the findings and methodologies through the presentation of workshops, lectures, short courses, and convention presentations throughout the country. A list of the locations and the type of these activities follows.

Dissemination Activities 1970-71

1. In October of 1970 a conference was held at the University of Denver entitled "Videotape and Audiotape Confrontation in Clinical Training." Participants for the conference were selected on the basis of demonstration of current work in the area of interest. Each participant at the conference gave an oral presentation to the participants, followed by group reaction and interaction. Below is a list of the names and locations of each participant with a brief abstract of his conference presentation.

Daniel R. Boone, University of Denver	An Introduction to Using Videotape and Audiotape in the training of Speech and Hearing Clinicians

A brief overview is given to the traditional employment of video and audiotape recording devices in clinical training. The recent development of analyses and confrontation devices using these instruments is specific as the study topic of the institute.

Thomas E. Prescott,
University of Denver

A Historical Overview of Videotape and Audiotape Confrontation

A review of Previous research in both videotape and audiotape self-confrontation is given. Previous confrontation work by counselors, trainers, communication methodologists, psychologists, and microteaching specialists is related to the ongoing work of Prescott and his colleagues in speech and hearing.

Ernest L Stech,
Western Michigan University

A Cybernetic Model of Videotape/Audiotape Training for Clinical Skills

Videotape/Audiotape confrontation is described as a feedback process. After a basic introduction to feedback systems, the author presents a concept of higher-order feedback loops. Stech suggests ways of incorporating permanently in the clinical situation high level feedback systems both in clinical training and supervision.

Thomas S. Johnson,
Utah State University

Development of a Multidimensional Scoring System for Observing the Clinical Process

A 40 category system has been experimentally developed which may be used for content and sequence analyses of speech and hearing therapy sessions. This system has developed a graded scoring system which permits the exact specification of both patient and clinician behaviors in therapy. Intra- and inter-judge reliability data is presented along with specifics of matrix validity, all indicating the 40 category system to be a valuable tool in studying speech and hearing therapy.

William M. Diedrich,
University of Kansas-
School of Medicine

Application of the Multidimensional Scoring System in Studying the Clinical Process in Speech Pathology

Procedures using the multidimensional clinical process scoring system are specified for the training of clinical students. Not only can the student study the therapy of someone else in depth, but he can develop an appreciation of the total clinical process. The student clinician by using such a scoring system can make a thorough study of his own therapy, determining the relative effectiveness of his own clinical behaviors.

Thomas E. Prescott,
University of Denver

Two Systems for Describing the Clinical Process

Two category systems used for describing the clinical process in speech pathology are presented. A Ten Category System, as developed by Stech, includes five behavioral categories acted out by the clinician and five categories which specify client behavior.

Prescott expands the basic ten category matrix to include 19 categories which specify type of stimulus --- response modality, an important specification in speech and hearing therapy.

Daniel R. Boone, University of Denver	Videotape and Audiotape Confrontation in Clinical Training

Both videotape and audiotape confrontation, when used with some kind of measuring instrument, have vital effects in the clinical training of speech pathologists and audiologists. Using confrontation systems of analysis permit the detailed study of the total clinical process. The positive effects of confrontation on self-concept are presented. Lastly, emphasis is given to using the ten or nineteen category systems in therapy supervision, either by a supervisor or by self.

Alvin A. Goldberg, University of Denver	Self-Concept and Change Utilizing Videotape Self-Confrontation

Videotape self-confrontation studies generally have found that passive viewing, not knowing what to look for, provides for less powerful confrontation experience. Observations and problems related to positive and negative feedback are presented. "Legitimacy of feedback (that it be valid and not false) appears to be a more powerful confrontation aspect than whether or not the feedback is positive or negative.

Linda A. Ramsey, Alachua County Schools, Florida	Application of Category Systems to the Analysis of Group Therapy

The study of group speech therapy in the schools is facilitated by applying category analyses. A description is given of procedures for videotaping speech clinicians working in the schools with therapy groups. Confrontation methods used by both clinician and supervisor have worked effectively, illustrating the practicality of videotape confrontation for clinicians and teachers in school settings.

Clyde L. Rousey, The Menninger Foundation, Topeka, Kansas	Effects of Audiotape Confrontation

Affective reactions to self-confrontation via audiotape recordings are analyzed and reported. The effects on both clinicians and clients in hearing their own voices are discussed from both theoretical and practical viewpoints. While focus is on audiotape confrontation in speech and hearing therapy, psychological and psychiatric implications of such confrontation are presented.

Susan T. Mulhern, Northwestern University	The Use of Videotape in Clinical Training

Videotape as a classroom teaching aid is used for demonstration of clinical problems, demonstration of test administration and therapy techniques. By using category analysis systems, the university speech clinic has been exposing graduate clinicians to both self-evaluation and supervision evaluation. Practical descriptions are given for employing videotape in many aspects of clinical teaching.

2. The findings and methodologies contained in this and past research projects were presented to various groups either jointly or individually by Boone and Prescott, 1970-71. A list of these presentations follows:

July, 1970	University of Indiana, participated in Public School Supervisory Conference, presenting our category systems for therapy analyses.
November, 1970	American Speech and Hearing Association Convention, paper presented entitled, "A Methodology for Describing Speech and Hearing Therapy."
November, 1970	Lakewood Public School Therapists Inservice Training, Lakewood, Colorado. Training was given in utilization of project developed methodologies.
December, 1970	Florida State Department of Education, Winter Park, Florida, presenting the category system to 70 public school speech hearing clinicians.
March, 1971	University of Iowa, Iowa City, Iowa, Distinguished Lecturer (Boone), Therapy Scoring.
March, 1971	Mid Town Hospital Association, Denver, Colorado, Videotape and Audiotape Methodologies presented to therapists in occupational therapy, physical therapy, and speech pathology.
March, 1971	Spalding Rehabilitation Center Inservice Training, Denver, Colorado. Description and training in utilization of project developed methodologies.

March, 1971	Executive Training Corporation, Denver, Colorado, Application of category system analysis to managerial training, Bureau of Land Management.
May,1971	Children's Hospital, Denver, Colorado, Inservice Training to Speech Pathology and Audiology Staff.
May, 1971	Colorado State University, Fort Collins, Colorado, Presented the therapy analysis to staff and students.
May, 1971	Executive Training Corporation, Application of category system analysis to managerial training, Lakewood Police Department, Lakewood, Colorado.

Dissemination Activities 1971-72

1. The previously described *Speech and Hearing Therapy Scoring Manual*, (Boone and Prescott, 1971) was disseminated to all persons who requested it as well as to all participants at workshops and lectures presented by Boone and Prescott throughout the year. The following is a list of presentations made either jointly or individually by Boone and Prescott during the current recording period, 1971-72:

July, 1971	University of Colorado Medical Center Denver, Colorado "Speech and Hearing Therapy Scoring"
July, 1971	University of Kansas Medical Center Kansas City, Kansas "The Therapy Process"
September, 1971	Birmingham VA Hospital Birmingham, Alabama "Scoring of Therapy
September, 1971	Speech and Hearing Association of Alberta (Canada) Banff, Canada "The Processes of Therapy"
October, 1971	Purdue University, Speech Pathology and Audiology Lafayette, Indiana "Scoring of Speech and Hearing Therapy"
October, 1971	University of Washington Speech Pathology and Audiology Seattle, Washington "Processes of Therapy"

October, 1971	Washington-Oregon Speech and Hearing Associations Combined Meeting Seattle, Washington "Scoring of Speech and Hearing Therapy"
October, 1971	Arizona Speech and Hearing Association Casa Grande, Arizona "The Scoring of Speech and Hearing Therapy"
November, 1971	Lincoln State School Lincoln, Illinois "The Training of Mental Health Personnel in the State of Illinois in Audio- and Videotape Confrontation Procedures"
November, 1971	American Speech and Heating Association Convention Chicago, Illinois "Short Course: Videotape and Audiotape Confrontation in Clinical Supervision"
December, 1971	While teaching voice disorders at the University of Hawaii, Dr. Boone spent one afternoon teaching the scoring system to faculty and graduate students in speech pathology and audiology.
January, 1972	Supervisors of Public Schools, Southern Minnesota Mankato State College, Mankato, Minnesota "Processes and Scoring of Speech and Hearing Therapy"
January, 1972	Staff and Students, Speech Pathology Program Elmira College Elmira, New York "Self-Confrontation in Speech Pathology"
February, 1972	Eastern Washington State College Cheney, Washington "A Workshop on the Processes and Scoring in Therapy"
February, 1972	Special School District of St. Louis St. Louis, Missouri "A Workshop on the Scoring of Therapy"
March, 1972	Oklahoma Speech and Hearing Association Oklahoma State University Stillwater, Oklahoma "The Processes and Scoring of Therapy"

March, 1972	Nebraska Speech and Hearing Association Omaha, Nebraska "The Scoring of Therapy"
March, 1972	Denver Area Academy of Private Practitioners of Speech Pathology and Audiology University of Denver Denver, Colorado "The Scoring of Speech and Hearing Therapy"
March, 1972	Michigan Public School Supervisors and Eastern Michigan and Michigan University Supervisors Ypsilanti, Michigan
April, 1972	"The Scoring of Therapy" Pennsylvania Speech and Hearing Association, Pittsburg Hilton, Pittsburg, Pennsylvania "A Workshop on Therapy Scoring"
May, 1972	Kearney State College Faculty and Area Public School Supervisors Kearney, Nebraska "The Scoring of Speech and Hearing Therapy"
May, 1972	Indiana Speech and Hearing Association Muncie, Indiana "Self-Accountability in Speech and Hearing Therapy"
May, 1972	California State Department of Public Instruction Los Angeles Hilton Hotel, Los Angeles, California Voice Workshop: "The Scoring of Speech and Hearing Therapy"
June, 1972	Baylor Medical Center Houston, Texas In a Voice Disorders Workshop a lecture was presented, "Therapy Scoring"
June, 1972	Phillips University Enid, Oklahoma A one-day workshop on "Therapy Scoring" for the faculties of Tulsa University, Oklahoma State University and Phillips University.
July, 1972	University of Pacific Stockton, California Voice workshop: "Scoring of Therapy"

At each of these presentations the authors utilized and presented to the participants copies of the Speech and Hearing Therapy Scoring Manual (Boone and Prescott, 1971). These activities have resulted in considerable nationwide application of the theoretical and methodological information developed in the projects described in the manuscript.

2. In addition to the above listed presentations an article entitled, "Content and Sequence Analysis of Speech and Hearing Therapy" was published in Asha by Boone and Prescott (1972). A reprint of this Asha article may be found in Appendix G. Requests for reprints of this article have been numerous as have been requests for copies of the Speech and Hearing Therapy Scoring Manual. As part of the dissemination activities of this project an attempt was made to supply either manuals or article reprints to as many of the requestors as possible. This through-the-mails dissemination was carried on until the supply of materials was exhausted. The supply of materials for dissemination included 500 Asha reprints and 500 copies of the Speech and Hearing Therapy Scoring Manual. The following is a list of individuals, and cities, to whom project publications, including manuals and reprints, were sent.

Date	Name	Place
September, 1970	Mrs. Nina Ransom	Titusville, Florida
October, 1970	Clare M. Nichols	West Palm Beach, Florida
October, 1970	Kenyon D. Wilson	Allison, Iowa
November, 1970	Mrs. Julie Cunningham	Iowa City, Iowa
December, 1970	Douglas M. Wing	Great Falls, Montana
March, 1971	Dr. Patrick J. Carney	Iowa City, Iowa
April, 1971	Candyce Shaw	Lincoln, Nebraska
November, 1971	Carol Stover	Chicago, Illinois
November, 1971	Karen M. Shay	Owatonna, Minnesota
January, 1972	Dr. Carl Binnie	Lafayette, Indiana
January, 1972	Lyle McFarling	Mankato, Minnesota
January, 1972	Alineda Kudberg	N. Mankato, Minnesota
January, 1972	Fred L. Aden	Mankato, Minnesota
January, 1972	Mrs. S Marxheimer	Edmonton, Alberta
January, 1972	Dr. Thayne Hedges	Enid, Oklahoma
January, 1972	Lois Heusinkveld	Minneapolis, Minnesota

Date	Name	Place
February, 1972	Dr. William Diedrich	Kansas City, Kansas
February, 1972	Dr. Jerry Punch	University, Mississippi
February, 1972	Z. Crouch	Overland Park, Kansas
February, 1972	Julie C. Lupold	Elkhart, Indiana
February, 1972	Geraldine D. Chapey	Brooklyn, New York
February, 1972	Alice Stokes	Logan,Utah
February, 1972	George W. Schubert	Seattle, Washington
February, 1972	M. Joseph Whalen	Colville, Washington
February, 1972	George W. Schubert	Seattle, Washington
February, 1972	Charles L. Madison	Pullman, Washington
February, 1972	Dr. Patricia Hahn	Cheney, Washington
February, 1972	Mrs. Allen W. Stokes	Logan,Utah
March, 1972	Lucille Samartin	Stillwater, Oklahoma
March, 1972	Dr. Fred E. Stanton	Spokane, Washington
March, 1972	Linda S. Spencer	Oklahoma City, Oklahoma
March, 1972	Barbara Jane Giles	Edmond, Oklahoma
March, 1972	Orpha L. Powell	Stillwater, Oklahoma
March, 1972	Kay Heflin	Tulsa, Oklahoma
March, 1972	Mrs. Becky A. Williams	Shawnee, Oklahoma
March, 1972	Barbara Freed	Lookeba, Oklahoma
March, 1972	Mary Ann Lively	Oklahoma City, Oklahoma
March, 1972	Mary E. Dobson	Stillwater, Oklahoma
March, 1972	Mary Ann Overall	Sand Springs, Oklahoma
March, 1972	Linda Elliott	Shawnee, Oklahoma
March, 1972	Mrs. Mary Aldridge	Cushing, Oklahoma

Date	Name	Place
March, 1972	Eleanor Rowan	Oklahoma City, Oklahoma
March, 1972	Karen Hibbets	Enid, Oklahoma
March, 1972	Dr. Burchard M. Carr	Stillwater, Oklahoma
March, 1972	Geraldine D. Chapey	Brooklyn, New York
March, 1972	P. Miller	Fullerton, California
March, 1972	Dr. Elwood G. Anderson	Alpena, Michigan
March, 1972	Michael L. Sweet	Omaha, Nebraska
March, 1972	Mrs. Paul Weber	Rose, Nebraska
March, 1972	Donald T. Legacie	Holdrege, Nebraska
March, 1972	Ben Koperski	Lincoln, Nebraska
March, 1972	Penny Sullivan	Lincoln, Nebraska
March, 1972	Mrs. Mary Beland	Lincoln, Nebraska
March, 1972	Blair Wasson	Grants Pass, Oregon
March, 1972	Dr. Mary Pannbacker	Denton, Texas
March, 1972	Lon Emerick	Marquette, Michigan
April, 1972	Mrs. J. Wm. Lybarger	Indianapolis, Indiana
April, 1972	Dr. David Palmer	Ypsilanti, Michigan
April, 1972	Mary Ann Henry	Greensburg, Pennsylvania
April, 1972	Janet Kenyherz	Pittsburg, Pennsylvania
April, 1972	Miss Mary Alice Hunter	Lancaster, Pennsylvania
April, 1972	Linda Vogel	Thermopolis, Wyoming
April, 1972	Dr. George Allen	California, Pennsylvania
April, 1972	Mrs. Dureta Sexton	Muncie, Indiana
April, 1972	Mary Jane Myers	Ebensburg, Pennsylvania
April, 1972	Marvin Robert Kolodny	Indianapolis, Indiana

Date	Name	Place
April, 1972	Marlene R. Anyder	Chicoia, Pennsylvania
April, 1972	Ruth L. Myrick	Levittown, Pennsylvania
April, 1972	Neil E. Carpenter	Valparaiso, Indiana
April, 1972	Robert T. Lyon	Williamsport, Pennsylvania
April, 1972	Glenn T. Farling	Muncie, Indiana
April, 1972	Sue Ehlmann	Indianapolis, Indiana
April, 1972	Deborah R. Klevans	University Park, Pennsylvania
April, 1972	Loren Bower	Williamsport, Pennsylvania
April, 1972	Sibyl Gholson	Austin, Texas
April, 1972	Lynn H. Swingle	West Chester, Pennsylvania
April, 1972	Miss Frances Pulford	Pittsburg, Pennsylvania
April, 1972	Miss Susan Maxwell	West Chester, Pennsylvania
April, 1972	Dr. James D. Bryden	Bloomsburg, Pennsylvania
April, 1972	Leanne Weller	Muncie, Indiana
April, 1972	Mrs. Fred Hitz	Muncie, Indiana
April, 1972	Beth A.Walker	Huntingdon, Pennsylvania
April, 1972	John T. Dellegrotto	Berwick, Pennsylvania
April, 1972	Dr. Susan L. Gilmore	Baton Rouge, Lousiana
April, 1972	Dr. Jeannette K. Laguaite	New Orleans, Louisana
April, 1972	Sharon, Weintrob	Philadelphia, Pennsylvania
April, 1972	Laurie Robinson	West Chester, Pennsylvania
April, 1972	Miss Colleen Haney	Canonsburg, Pennsylvania
April, 1972	Cindy Shaffer	Williamson, West Virginia
April, 1972	Dr. Dorothy Bell	Fort Worth, Texas
April, 1972	Francis Freidline	Peru, Indiana

Date	Name	Place
April, 1972	Dr. Gerald A. Leidy	Shippensburg, Pennsylvania
April, 1972	Mrs. Mary Palmer	Levittown, Pennsylvania
April, 1972	Dr. Margaret C. Lefevre	Bloomsburg, Pennsylvania
April, 1972	Mrs. Jo Ann Coatsworth	California, Pennsylvania
April, 1972	John R. Clark	Quakertown, Pennsylvania
April, 1972	Mrs. Melinda A. Graham	Wilkes-Barre, Pennsylvania
April, 1972	Dr. Sylvia Greenberg	Pittsburg, Pennsylvania
April, 1972	Heather Stewart	Wexford, Pennsylvania
April, 1972	Miss Eva Glevanik	Irwin, Pennsylvania
April, 1972	Anne Flaherty	Boston, McKeesport, Pennsylvania
April, 1972	Thomas J. Wyse, Jr.	Indiana, Pennsylvania
April, 1972	Helen B. Volz	University Park, Pennsylvania
April, 1972	Jane W. Stoddard	East Stroudsburg, Pennsylvania
April, 1972	Jean Glavich	Vandling, Pennsylvania
April, 1972	M.Terry Huber	Hollidaysburg, Pennsylvania
April, 1972	Alton A. Pellman	Annville, Pennsylvania
April, 1972	Roseann McMullen	Cresson, Pennsylvania
April, 1972	Francine Tishman	Conemaugh, Pennsylvania
April, 1972	Cynthia Cronk	Conemaugh, Pennsylvania
April, 1972	Edmund C. Nuttall	Norman, Oklahoma
May, 1972	Julie Carius	Allentown, Pennsylvania
May, 1972	Bertram J. Hilbert	Allentown, Pennsylvania
May, 1972	Sandra Thornton	Williamsport, Pennsylvania
May, 1972	Mrs. Ruth Arnold	Laramie, Wyoming
May, 1972	Margaret R. Rall	Terre Haute, Indiana

Date	Name	Place
May, 1972	Mrs. Patricia H. Querry	Carlisle, Pennsylvania
May, 1972	Miss Janet Pomorski	Erie, Pennsylvania
May, 1972	Mary M. Grimes	Catawissa, Pennsylvania
May, 1972	Mrs. Donna Raforth	Ethete, Wyoming
May, 1972	Ellen R. Bell	Indianapolis, Indiana
May, 1972	Francis J. Chopko	Scranton, Pennsylvania
May, 1972	Chauncey J. Hunker	Gary, Indiana
May, 1972	Miss Jo Carol Hudgins	Muncie, Indiana
May, 1972	Mary Ann Sobadish	Sawyersville, Pennsylvania
May, 1972	Kathryn P. Vaurio	Media, Pennsylvania
May, 1972	Saundra Mikita	McKeesport, Pennsylvania
May, 1972	Mrs. Lee Ann Shields	Evansville, Indiana
May, 1972	Carl W. Carmichael	Haxtun, Colorado
May, 1972	Dr. Jack D. Anderson	Tulsa, Oklahoma
May, 1972	Lorraine H. Russell	Philadelphia, Pennsylvania
May, 1972	Miss Christine S. McIntyre	Carlisle, Pennsylvania
May, 1972	Gayle L. Roosevelt	Jackson, Wyoming
May, 1972	Sally Ramsmeyer	Kokomo, Indiana
May, 1972	Dr. Dale W. Kitchen	Northville, Michigan
May, 1972	Marty Morningstar	Muncie, Indiana
June, 1972	Pat Castells	Pittsburg, Pennsylvania
June, 1972	Mrs. K. De Groff	W. Lafayette, Indiana
June, 1972	Robert A. Hull, Jr.	Polk, Pennsylvania
June, 1972	Phyllis Horney	Warsaw, Indiana
June, 1972	James H. Rue	Donora, Pennsylvania

Date	Name	Place
July, 1972	Dr. E. Ruth Walker	University, Alabama
July, 1972	Dr. Ruth Pearce	North Hollywood, California
July, 1972	Dr. Joan Dickerson	Coeur d'Alene, Idaho
July, 1972	Mr. Arthur Moreau	Peoria, Illinois
July, 1972	Mrs. Flonnia Taylor	Lexington, Kentucky
July, 1972	Mrs. Shirley Carstensen	Medford, Oregon
July, 1972	Sharon Ferguson	Muncie, Indiana

Application Phase 1972

Two major activities aimed toward application of the methologies described herein were carried on. First, all of the graduate student speech and hearing therapy trainees at the University of Denver, Denver, Colorado, were trained to employ all of the scoring techniques and utilized these techniques to analyze their therapy during the past year. Second, a part of each presentation made individually or jointly by Drs. Boone and Prescott included the urging of the listeners to employ the methods and techniques described in their own settings. Numerous letters were received indicating a widespread use of these methods and techniques throughout the country. It was concluded that both the dissemination and application phases had been successfully completed.

SUMMARY

It was hoped in the beginning of these investigations that the study of the processes of speech and hearing therapy would lead to new refinements in clinical training. Initial study attempts were made to expose students in training to confront themselves in videotape to make these confrontations more meaningful, scoring matrices were devised to help the student and his supervisor become aware of therapy interactions. Initial focus was in helping the student learn principles of behavioral therapy through his direct confrontation of self. Videotape confrontation, when coupled with the scoring of therapy, was found to have significant and powerful effects in training speech and hearing clinicians.

It was later found that audiotape was similarly effective as videotape. Although in studying oneself in therapy by audiotape the clinician loses about 20% of the therapy events (which are wholly visual). Practical methodologies were developed for using both audiotape and videotape in confrontation. Scoring systems (individual ten category, group ten category, individual 19 category) were developed which yielded quantitative data about therapy relative to clinician-client talk time, client success rate, clinician reinforcement types and achedules, socialization percentage of therapy, control of client, etc.

The therapy scoring systems have been presented in workshops to several thousand speech and hearing clinicians. Clinicians in training, speech and hearing clinicians in schools and hospitals have been taught methods of confrontation and self-scoring. The new national focus in educational and therapeutic accountability has made this self-analysis system very relevant to the field of speech pathology and audiology. Consequently, the investigators have had numerous opportunities to speak before state educational groups, training programs, and state-national association meetings. The confrontation and scoring methodologies developed in this project are being used in numerous settings, both as clinical and research tools. Although the scoring manual and related reprints have been widely disseminated, the investigators are now planning a therapy accountability book which will report collectively the many projects and methodologies which have emanated from this confrontation project.

BIBLIOGRAPHY

BIBLIOGRAPHY

Note: This bibliography represents a survey of all the literature on videotape and audiotape confrontation through January, 1970.

1. Alger, I and P. Hogan. "Enduring Effects of Videotape Playback Experience on Family and Marital Relationships." American Journal of Orthopsychiatry, 1969, 39, 86-98.

2. ____________________. "The Impact of Videotape Recording on Involvement in Group Therapy." Paper presented at the American Group Psychotherapy Association, New York, January, 1967.

3. ____________________. "The Use of Videotape Recordings in Conjoint Marital Therapy in Private Practice." Paper presented at the American Psychiatric Association, Atlantic City, May, 1966.

4. ____________________. "Videotape: Its Use and Significance in Psychotherapy." Paper presented to the Society of Medical Psychoanalysts at the New York Academy of Medicine, September, 1966.

5. Amidon, E. J. "Using Interaction Analysis at Temple University." Paper presented at the Conference on the Implications of Recent Research on Teaching for Teacher Education. University of Rochester, Rochester, New York, 1966.

6. ____________ and N. A. Flanders. "The Effects of Direct and Indirect Teacher Influence on Dependent-Prone Students Learning Geometry." Journal of Educational Psychology, 1961, 52, 286-291.

7. ____________________. Interaction Analysis: Theory, Research, and Application. Reading, Mass.: Addison-Wesley, 1967.

8. ____________ and M. M. Giammateo. "The Verbal Behavior of Superior Teachers." Elementary School Journal, 1965, 283-285.

9. ____________ and E. Hunter. "Verbal Interaction in the Classroom: The Verbal Interaction Category System." pp. 141-149 in Amidon, E. J. and Hough,J. B. (Eds.) Interaction Analysis Theory, Research and Application. Reading, Massachusetts: Addison-Wesley, 1967.

10. Anderson, H. H. "The Measurement of Domination and of Socially Integrative Behavior in Teachers' Contacts with Children." Child Development, 1939, 10, 73-89.

11. ______________ and O. H. Brown. "Tape Recordings and Counselor-Trainee Understandings." Journal of Counseling Psychology, 1955, 2, 189-195.

12. Armstrong, R. G. "Playback Technique in Group Psychotherapy." Psychiatric Quarterly Supplement, 1964, 38, 247-252.

13. Aronson, A. E. and J.V. Irwin. "Teaching Speech Correction by Television." *N.A. E. B. Journal*. 1960, 19, 23-28.

14. Aschner, M. J. *The Analysis of Classroom Discourse: A Method and Its Uses*. Unpublished doctoral dissertation, University of Illinois, Urbana, 1959.

15. Bahnson, C. B. "Body and Self-Images Associated with Audio-visual Self-Confrontation." *The Journal of Nervous and Mental Disease*, 1969, 148:3, 262-279.

16. Bales, R. F. *Interaction Process Analysis: A Method for the Study of Small Groups*. Reading, Mass.: Addison-Wesley, 1950.

17. Barker, R. G. and H. F. Wright. *Recording and Analyzing Child Behavior: with Ecological Data from an American Town*. New York: Harper and Row, 1967.

18. Barnlund, D. C. *Interpersonal Communication: Survey and Studies*. Boston: Houghton Mifflin, 1968.

19. Bierer, J. and R. Strom-Olsen. "The Recordings of Psychotherapeutic Sessions." *Lancet*, 1948, 254, 957-958.

20. Bloom, B. S. "Testing Cognitive Ability and Achievement." In Gage, N. L. (Ed.), *Handbook of Research on Teaching*. New York: Rand McNally, 1963.

21. __________. "Thought Processes in Lectures and Discussions." *Journal of Genetic Education*, 1953, 7, 160-169.

22. __________ and L. Broder. "problem-Solving Processes of College Students." *Education Monographs*. Chicago: University of Chicago Press, 1950.

23. Bodin, A. M. "Videotape Applications in Training Family Therapists." *The Journal of Nervous and Mental Disease*, 1969, 148:3, 251-261.

24. Borglum, G. "Modern Language Audio-Visual Project." *Modern Language Journal*, 1958, 42, 325-328.

25. __________ and T. Mueller. "Adendum to Language Laboratory and Target Language." *French Review*, 1956, 30, 58-59.

26. Boone, D. R. and A. A. Goldberg. *An Experimental Study of the Clinical Acquisition of Behavioral Principles by Videotape Self-Confrontation*. Final Report, Project No. 4071, Grant No. OEG-8-071319-2814, U. S. Department of Health, Education, and Welfare. Division of Research, Bureau of Education for the Handicapped, Office of Education, 1969.

27. ________________ and T. E. Prescott. *Application of Videotape and Audiotape Self-Confrontation Procedures to Training Clinicians in Speech and Hearing Therapy.* Final Report, Project No. 1412, Grant no. OEG-0-70-4758-607, U. S. Department of Health, Education, and Welfare. Division of Research, Bureau of Education for the Handicapped, Office of Education, 1971.

28. ________________________. *Speech and Hearing Therapy Scoring Manual: A Manual for Learning to Self-Score the Events of Therapy.* Partially funded by Bureau of Education of the Handicapped, Office of Education Grant # OEG-0-70-4758-607, University of Denver, Denver, Colorado, 1971.

29. ______________ and E. L. Stech. *The Development of Clinical Skills in Speech Pathology by Audiotape and Videotape Self-Confrontation.* Final Report to the U. S. Department of Health, Education, and Welfare, Grant No. OEG-9-071318-2814. University of Denver, Denver, 1970.

30. Borke, H. "The Communication of Intent: A Revised Procedure for Analyzing Family Interaction from Videotapes." *Journal of Marriage and the Family,* 1969, 31:3, 541-544.

31. Boyd, H. S. and V. J. Sisney. "Immediate Self-Image Confrontation and Changes in Self-Concept." *Journal of Consulting Psychology,* 1967, 31, 291-294

32. Braucht, G. N. "Self-Confrontation: A Conceptual, Methodological, and Empirical Analysis." Unpublished doctoral dissertation, University of Colorado, 1968.

33. Bucheimer, A., J. Goodman, and G. Circus. *Videotape and Kinescopic Recordings as Situational Test and Laboratory Exercises in Empathy for the Training of Counselors.* Technical Report to the U.S. Office of Education, NPEA Title VII Research Project No. 7-42-0550-1670. New York: City University of New York, 1965.

34. Carroll, M. A. "An Instrument for Analyzing Activities of Guidance Personnel." *Counselor Education and Supervision,* 1967, 6, 201-204.

35. Cartwright, R. D. "A Comparison of the Response to Psychoanalytic and Client-Centered Psychotherapy." In Gottschalk, L. A., and A. K. Auerbach (Eds.), *Methods of Research in Psychotherapy.* New York: Appleton-Century-Crofts, 1966.

36. Clifford, S. "Video Valuable in Speech-Hearing Therapy." *Audecibel,* 1968, 17, 168-171.

37. Cooper, E. B. "A Therapy Process for the Adult Stutterer." *Journal of Speech and Hearing Disorders,* 1968, 33, 246-259.

38. Cornelison, F. S. and Arsenian, J. "Study of Responses of Psychotic Patients to Photographic Self-Image Experiences." Psychiatric Quarterly, 1960, 34, 1-8.

39. Covner, B. J. "The Completeness and Accuracy of Counseling Interview Reports." Journal of General Psychology, 1944, 30, 181-203.

40. Covner, B. J. "A Device for Transcribing Phonographic Recordings of Verbal Material." Journal of Consulting Psychology, 1942, 6, 149-153.

41. Covner, B. J. "The Use of Phonographic Recordings in Counseling Practice and Research." Journal of Consulting Psychology, 1942, 6, 105-113.

42. Covner, B. J. "Written Reports of Interviews." Journal of Applied Psychology, 1944, 28, 89-98.

43. Danet, B. D. "Self-Confrontation in Psychotherapy Reviewed." American Journal of Psychotherapy, 1968, 22, 245-257.

44. Dehon, William N. "Self-Confrontation via TV: Videotaped Feedback for Training at Sandia Laboratory." Training and Development Journal, 1967, 43.

45. Dibner, A. J. "Cue Counting: A Measure of Anxiety in Interviews." Journal of Consulting Psychology, 1956, 20, 475-478.

46. Diedrich, W. M. "Use of Videotape in Teaching Clinical Skills." Volta Review, 1966, 644-647.

47. Dieker, R. J., L. Crane, and C. T. Brown. "Repeated Self-Viewing on Closed Circuit Television as It Affects Changes in Students' Awareness of Themselves as Speakers." Final Report, Project No. 7-E0198, Contract No. OEC-0-070198-2807. Office of Education, Bureau of Research, U. S. Department of Health, Education, and Welfare, 1968.

48. Dittman, A. T. "The Interpersonal Process in Psychotherapy: Development of a Research Method." Journal of Abnormal Social Psychology, 1952, 47, 236-244.

49. Dymond, R. F. and C. R. Rogers (Eds.). Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954.

50. Eachus, H. R. "Self-Confrontation for Complex Skill Training." Aerospace Medical Division, Air Force Systems Command, Wright-Patterson AFB, Ohio, 1965.

51. Ferster, C. B. and M. K. DeMeyer. "A Method for the Experimental Analysis of the Behavior of Autistic Children." American Journal of Orthopsychiatry, 1962, 32, 189-198.

52. Ferster, C. B. and B. F. Skinner. *Schedules of Reinforcement*. New York: Appleton-Century-Crofts, 1957.

53. Flanders, N. A. Interaction Analysis in the Classroom: *A Manual for Observers*. Ann Arbor: University of Michigan, 1960.

54. Frandsen, K., C. Larson, and M. Knapp. "Simulation and Self-Confrontation in Interpersonal Communication." *Educational Broadcasting Review*, April 1968, 18-23.

55. Freed, H. "On Various Uses of the Recorded Interview in Psychotherapy." *Psychiatric Quarterly*, 1948, 22,685-695.

56. Freud, A. *The Ego and the Mechanisms of Defense*. New York: International Universities Press, 1946.

57. Geertsma, R. H. and R.Reivich. "Auditory and Visual Dimensions of Externally Mediated Self-Observation." *The Journal of Nervous and Mental Disease*, 1969, 143, 211-223.

58. ________________________. "Repetitive Self-Observation by Video-Tape Playback." *Journal of Nervous and Mental Disorders*, 1965, 141, 29-41.

59. Goffman, Irving. *The Presentation of Self in Everyday Life*. Garden City, New York: Doubleday Anchor, 1959.

60. Goldberg, A. "An Experimental Study of the Effects of Evaluation upon Group Behavior." The Quarterly Journal of Speech, 1960, 46, 274-283.

61. Gottschalk, L. A. and A. H. Auerbach (Eds.). *Methods of Research in Psychotherapy*. New York: Appleton-Century-Crofts, 1966.

62. Gottheil, E. et al. "Denial and Self-Image Confrontation in a Case of Anorexia Nervosa." *The Journal of Nervous and Mental Disease*, 1969, 143, 238-249.

63. Greenspoon, J. "The Reinforcing Effect of Two Spoken Sounds on the Frequency of Two Responses." *American Journal of Psychology*, 1955, 68, 409-416.

64. Griver, J. and M. Robinson. "Structured Feedback: A Motivational Theory and Technique for Improving Job Performance and Job Attitudes." Paper presented to the American Psychological Association, September, 1966.

65. Haines, D. B. and T. Eachus. "A Preliminary Study of Acquiring Cross-Cultural Interaction Skills Through Self-Confrontation." Aerospace Medical Division, Air Force Systems Command, Wright-Patterson AFB, Ohio, 1965.

66. Halfond, M. M. "Clinical Supervision-Stepchild in Training." Asha, 6, 441-444.

67. Hirschfeld, A. G. "Utilization of Videotaped Speeches for Self-Analysis in a Fundamentals of Speech Course." Speech Monographs, 1966, 33, 227.

68. Hogan, P. and I. Alger. "The Impact of Videotape Recordings on Insight in Group Psychotherapy." Paper presented to the American Group Psychotherapy Association, New York, January, 1967.

69. Hoge, H. W. "Testing in the Language Laboratory: A Laboratory Experiment in Spanish Pronounciation." Hispania, 1959, 42, 147-152.

70. Holland, A. H. "Some Applications of Behavioral Principles to Clinical Speech Problems." Journal of Speech and Hearing Disorders, 1967, 32, 11-18.

71. Holland, A. L. and J. Matthews. "Application of Teaching Machine Concepts to Speech Pathology and Audiology." Asha, 1963, 5, 474-482.

72. Holland, J. and B. F. Skinner. The Analysis of Behavior. New York: McGraw-Hill, 1961.

73. Holzman, P. "On Hearing and Seeing Oneself." The Journal of Nervous and Mental Disease, 1969, 143, 198-209.

74. Holzman, P. S. and C. Rousey. "The Voice as a Percept." Journal of Personality and Social Psychology, 1966, 4, 79-86 .

75. Holzman, P. S., C. Rousey, and C. Snyder. "On Listening to One's Own Voice." Journal of Personality and Social Psychology, 1966, 4, 432-441.

76. Hough, J.B. and E. J. Amidon. "The Relationship of Personality Structure and Training in Interaction Analysis to Attitude Change During Student Teaching." Paper read at the annual meeting of the American Educational Research Association, Chicago, 1965.

77. ____________________. "Behavioral Change in Student Teachers." pp. 307-314 in Amidon, E. J. and Hough, J. B. (Eds.) Interaction Analysis: Theory, Research and Application. Reading, Massachusetts: Addison-Wesley, 1967.

78. __________ and Ober, R. "The Effects of Training in Interaction Analysis on the Verbal Behavior of Pre-Service Teachers." Paper read at the annual meeting of the American Educational Research Association, Chicago, 1966.

79. Howard, R. and L.Berkowitz. "Reactions to the Evaluation of One's Performance." Journal of Personality, 1958, 26, 494-507.

80. Ingram, D. B. and A. Stunden. "Student Attitudes Toward the Therapeutic Process." Asha. 1967, 9, 435-441.

81. Isaacs, T. and I. Goldiamond. "Application of Operant Conditions to Reinstate Verbal Behavior in Psychotics." Journal of Speech and Hearing Disorders, 1960, 25, 8-12.

82. Ivey, A. E., C. J. Normington, C. D. Miller, W. H. Morrill, and R. F. Haase. "Microcounseling and Attending Behavior: An Approach to Prepracticum Gounselor Training." Journal of Counseling Psychology, (Monograph Supplement) Vol. 15, No. 5, Part 2, 1968, 1-12.

83. Jakobovits, L. A. "Utilization of Semantic Satiation in Stuttering: A Theoretical Analysis." Journal of Speech and Hearing Disorders, 1966, 31, 105-114.

84. Johnson, T. S. The Development of A Multidimensional Scoring System for Observing the Clinical Process in Speech Pathology. Unpublished doctoral dissertation: Lawrence, Kansas, University of Kansas, 1969.

85. Kagan, N. and D. R. Krathwohl. Studies in Human Interaction Interpersonal Process Recall Stimulated by Videotape. Final Report, Project No. 5-0800, Grant No. OE-8-32-0410-270, Office of Education Bureau of Research. East Lansing, Michigan: Michigan State University, 1967.

86. Kagan, N., D. R. Krathwohl, and W. W. Farquhar. IPR -- Interpersonal Process Recall Stimulated by Videotape. Educational Research Series, No. 25. East Lansing: Bureau of Educational Research Services, Michigan State University. Title VII, Project No. 1100.

87. Kagan, N., D. R. Krathwohl, and R. Miller. "Stimulated Recall in Therapy Using Videotape - A Case Study." Journal of Counseling Psychology, 1963, 10, 237-243.

88. Kagan, N., D. R. Krathwohl, A. Goldberg and R. Campbell. Interpersonal Process Recall. Progress Report: NDEA, Title VII, Grant No. OE-7-32-0410-270, 1967.

89. Kallas, J. J. "VTR in Sales Training." Training in Business and Industry. July 1967, p. 42.

90. Kaswan, J. and L. Love. "Confrontation as a Method of Psychological Intervention." The Journal of Nervous and Mental Disease, 1969, 143, 224-237.

91. Kibler, G. F., L. L. Barker, and R. H. Enoch. "The Development and Preliminary Assessment of a Set of Videotaped Informative Speech Models." The Central States Speech Journal, 1967, 88, 268-275.

92. Kidorf, I. W. "A Note on the Use of a Tape Recording during the Therapy Session." International Journal of Group Psychotherapy, 1963, 13, 211-213.

93. King, G. F., S. G. Armitage, and J. R. Tilton. "A Therapeutic Approach to Schizophrenics of Extreme Pathology: An Operant Interpersonal Method." Journal of Abnormal and Social Psychology, 1960, 61, 276-286.

94. Korner, I. N. and W. H. Brown. "The Mechanical Third Ear." Journal of Consulting Psychology, 1952, 16, 81-84.

95. Krasner, L. "Studies of the Conditioning of Verbal Behavior." Psychological Bulletin, 1958, 55, 148-170.

96. ___________. "The Therapist as a Social Reinforcement Machine." In Strupp, H. H. and L. Luborsky (Eds.). Research in Psychotherapy. Washington, D. C.: American Psychological Association, 1962, 2, 61-94.

97. ___________. "Verbal Conditioning and Psychotherapy." In Krasner, L. and L. P. Ullman. Research in Behavior Modification. New York: Holt, Rinehart, and Winston, 1965.

98. Kunze, L. "Program for Training in Behavioral Observations." Asha, 1967, 9, 473-476.

99. Leavitt, H. and R. Mueller. "Some Effects of Feedback on Communication." Human Relations, 1951, 4, 401-410.

100. Lindsley, O. R. "Can Deficiency Produce Specific Superiority. The Challenge of the Idiot Savant." Exceptional Children, 1965, 31, 225-232.

101. Lohman, E. E., R. Ober, and J. B. Hough. "A Study of the Effect of Preservice Training in Interaction Analysis on the Verbal Behavior of Student Teachers." pp. 346-359 in Amidon, E. J. and Hough, J. B. (Eds.) Interaction Analysis: Theory, Research and Application. Reading, Massachusetts: Addison-Wesley, 1967.

102. McCroskey, J. C. and W. B. Lashbrook. "The Effect of Various Methods of Employing Videotaped Television Playback in a course in Public Speaking." Unpublished Manuscript, 1968.

103. Medley, D. M. and H. E. Mitzel. "Technique for Measuring Classroom Behavior." Journal of Educational Psychology, 1958, 49, 86-92.

104. Miller, A., K. Issacs, and E. A. Haggard. "On the Nature of the Observing Function of the Ego." British Journal of Medical Psychotherapy, 1965.

105. Miller, M. R. "Responses of Psychiatric Patients to their Photographed Images." Diseases of the Nervous System, 1962, 23, 296-298.

106. Miner, A. "Standards for Quality Supervision of Clinical Practicum." Asha, 9, 471-472.

107. Miskimins, R. W. The Concept of Self and Psychopathology. Unpublished manuscript. University of Colorado, 1967.

108. Moore, F. J., E. Chervell, and M. J. West. "Television as a Therapeutic Tool." Archives of General Psychiatry, 1965, 12, 217-220.

109. Mulac, A. "An Experimental Study of the Relative Pedagogical Effectiveness of Three Feedback Conditions Employing Videotape and Audiotape for Student Self-Evaluation." Unpublished doctoral dissertation, University of Michigan, 1969.

110. Myers, G., M. T. Myers, A. A. Goldberg, and C. E. Welch. "Effect of Feedback on Interpersonal Sensitivity in Laboratory Training Groups." Journal of Applied Behavioral Science, 1969, 5, 175-185.

111. Nielsen, G. Studies in Self-Confrontation: Viewing a Sound Motion Picture of Self and Another Person in a Stressful Dyadic Interaction. Copenhagen, Denmark: Munksgaard, 1962.

112. __________. "The Method of Self-Confrontation." In R. W. White (Ed.). The Study of Lives: Essays on Personality in Honor of Henry A. Murray. New York: Atherton, 1963, pp. 124-142.

113. Olsen, B. D. Comparisons of Sequential Interaction Patterns in Therapy of Experienced and Inexperienced Clinicians in the Parameters of Articulation, Delayed Language, Prosody, and Voice Disorders. Unpublished doctoral dissertation, University of Denver, 1972.

114. O'Neill, J. J. and H. A. Peterson. "The Use of Closed Circuit Television in a Clinical Speech Training Program." Asha, 1964, 445-447.

115. Paredes, A., et al. "Behavioral Changes as a Function of Repeated Self-Observation." Journal of Nervous and Mental Disease, 1969, 148, 287-299.

116. Payne, J. G. Videotape Recording for Management Training. Management Training Organization, Western Electric Company, Inc., November, 1966.

117. Peckrel, G., G. Neidt, and R. Gibson. "Tape Recordings Are Used to Teach Seventh Grade Students in Westside Junior-Senior High School, Omaha, Nebraska." National Association of Secondary School Principals Bulletin, 1958, 42, 81-93.

118. Perlmutter, M. S., et al. "Family Diagnosis and Therapy Using Videotape Playback." American Journal of Orthopsychiatry, 1967, 37, 900- 905.

119. Pinney, E. L. "The Use of Recorded Minutes in Group Psychotherapy: The Development of a 'Readback' Technique." Psychiatric Quarterly Supplement, 1963, 37, 263-269.

120. Poling, E. G. "Videotape Recordings in Counseling Practicum." Technical Report to the U. S. Office of Education, NDEA, Title VII, Research Project No. 7-51-0140-246.

121. ___________. "Videotape Recordings in Counseling Practicum: I-Environmental Considerations." Counselor Education and Supervision, 1968, 7, 348-356.

122. ___________. "Videotape Recordings in Counseling Practicum: II-Critique Considerations." Counselor Education and Supervision, 1968, 8, 33-38.

123. Prescott, T. E. The Development of a Methodology for Describing Speech Therapy. Unpublished doctoral dissertation: Denver, Colorado, University of Denver, 1970.

124. Prather, E. M. "An Approach to Clinical Supervision." Asha, 1967, 9, 251-256.

125. Rebow, J. "Quantitative Aspects of the Group-Psychotherapist; Role Behavior: A Methodological Note." Journal Social Psychology, 1965, 67, 31-37.

126. Rees, M. and G. Smith. "Supervised School Experience for Student Clinicians." Asha, 1967, 9, 251-256.

127. Robergs, C. R. "The Use of Electrically Recorded Interviews in Improving Psychotherapeutic Techniques." American Journal of Orthopsychiatry, 1942, 2, 429-434.

128. Ricker, L. "Use of Audio-Visual Feedback in Improving Social Skills of Mentally Retarded Young Adults." American Psychologist, 1963, 18, 404.

129. Robinson, M. "Feedback as a Therapeutic Tool." Quarterly of Camarillo, 1966, 2, No. 3.

130. Rubin, H., A. Bar, and J. H. Dwyer. "An Experimental Speech and Language Program for the Psychotic Children." Journal of Speech and Hearing Disorders, 1967, 32, 242-247.

131. Schoen, H. "Xerox Reveal Test of TV Tape Training." Sales Management, Part two: Sales Meetings, November 20, 1967, p. 56.

132. Serota, H. M. "Home Movies of Early Childhood: Correlative Development Data in Psychoanalysis of Adults." Science, 1964, 143, 1195.

133. Segal, S. J. "The Use of Clinical Techniques for Structuring Feedback in Vocational Counseling." Personnel and Guidance Journal, 1965, 43, 876-878.

134. Shaw, M. "Feedback Through Videotape Replay." (Mimeograph) Educational Systems & Designs, Inc., 1966.

135. Sheehan, H. G., R. G. Hadley, and L. Lechleidner. "Career Satisfaction and Recruitment in Speech Pathology and Audiology." *Asha*, 1964, 6, 277-283.

136. Shubin, S. "Patients on Camera." *Smith, Kline, and French Psychiatric Report*, 1966, 29, 13-15.

137. Siegel, L. and L.C. Siegel. "The Instructional Gestalt: A Conceptual Framework and Design for Educational Research." *AV Communication Review*, 1964, 12, 16-45.

138. ______________________, P. J. Caparetta, R. L. Jones, and H. Berkowitz. "Students' Thoughts During Class: A Criterion for Educational Research." *Journal of Educational Psychology*, 1963, 54, 45-51.

139. Skinner, B. F. *The Behavior of Organisms: An Experimental Analysis*. New York: Appleton-Century-Crofts, 1938.

140. ___________. *Cumulative Record*. (Revised Edition), New York: Appleton-Century-Crofts, 1961.

141. ___________. *Science and Human Behavior*. New York: Macmillan, 1953.

142. ____________, H. C. Solomon, O. R. Lindsley. "A New Method for the Experimental Analysis of the Behavior of Psychotic Patients." *Journal of Nervous and Mental Disorders*, 1954, 120, 404-406.

143. _____________. "Teaching Machines." *Science*, 1958, 128, 969-977.

144. Smith, B. O. "A Concept of Teaching." *Teachers College Record*, 1960, 61, 229-241.

145. Snyder, M. V. "An Investigation of the Nature of Non-Directive Therapy." *Journal of General Psychology*, 1945, 33, 193-223.

146. Stech, E. L. *A Set of Learning Theory Categories for Analyzing the Speech Therapy Situation: A Manual for Scoring Video and Audio Tapes*. Unpublished Manuscript, Denver, Colorado, University of Denver, 1969.

147. Sterba, R. "The Fate of the Ego in Analytic Therapy." *International Journal of Psychoanalysis*, 1934, 15, 117-126.

148. Stickell, D. W. "A Critical Review of the Methodology and Results of Research Comparing Televised and Face-to-Face Instruction." Unpublished doctoral dissertation, Pennsylvania State University, 1963.

149. Stoller, F. H. "Closed Circuit Television and Videotape for Group Psychotherapy with Chronic Mental Patients." *American Psychologist* (Abstract), 1967, 22, 158-162.

150. ___________. "Group Psychotherapy on Television." *Quarterly Journal of Camarillo*, 1966, 2, No. 3.

151. ___________. "TV and the Patient's Self-Image." *Frontiers of Hospital Psychiatry*, 1965, 2 No. 7.

152. ___________. "The Use of Focused Feedback via Videotape in Small Groups." Paper presented to VRA Conference on "The Use of Small Groups in Rehabilitation," San Diego, 1966.

153. ___________. "The Use of Focused Feedback via Videotape in Small Groups." *Explorations in Human Relations Training and Research*, 1966, No. 1.

154. ___________. "The Use of Videotape Feedback with Chronic Hospitalized Patients." Paper presented to the American Psychological Association, Los Angeles, 1964.

155. ___________, M. Robinson, and H. L. Myerhoff. "Effects of Videotape Feedback on Student Participants in a Two Day Marathon Group." Unpublished paper, 1966.

156. Stolz, W. and P. Tannenbaum. "Effects of Feedback on Oral Encoding Behavior." *Language and Speech*, 1963, 6, 218-228.

157. Stroh, T. F. *The Uses of Videotape in Training and Development*. AMA Research Study 93. American Management Association, Inc., 1969.

158. Stroh, T. F. *Videotape Feedback in the Development of Listening Skills by Industrial Salesmen*. Unpublished doctoral dissertation, Columbia University, 1968.

159. Thorndike, E. L. *Animal Intelligence*. New York: Macmillan, 1911.

160. Van Riper, C. "Supervision of Clinical Practicum." *Asha*, 1965, 7, 75-77.

161. Ventry, I. M., P. W. Newman, and K. O. Johnson. "Some Characteristics of ASHA Members Employed in College and University Speech and Hearing Programs." *Asha*, 1964, 6. 229-237.

162. Walsh, F. A. *Our Experience with Videotape*. (Mimeograph) National Society of Sales Training Executives, August, 1966.

163. Walz, G. R. and J. A. Johnson. "Counselors Look at Themselves on Videotape." *Journal of Counseling Psychology*, 1963, 10, 232-240.

164. Ward, W. D. and S. Bendak. "The Response of Psychiatric Patients to Photographic Self-Image Experience." *Newsletter for Research in Psychology*. Veterans Administration, 1964, 6, 29-30.

165. Ward, L. M. and E. J. Webster. "The Training of Clinical Personnel: Issues in Conceptualization." *Asha*, 1965, 7, 38-40.

166. ______________________. "The Training of Clinical Personnel: II. A Concept of Clinical Preparation." *Asha*, 1965, 7, 103-106.

167. Williams, J. H. "Conditioning of Verbalization: A Review." *Psychological Bulletin*, 1964, 72, 383-393.

168. Wilmer, H. A. "Practical and Theoretical Aspects of Videotape Supervision in Psychiatry." *Journal of Nervous and Mental Disease*, 1969, 148, 123-130.

169. Withall, J. "The Development of a Technique for the Measurement of Social-Emotional Climate in classrooms." *Journal of Experimental Education*,1949, 17, 347-361.

170. Wood, N. "Televised Speech and Hearing Therapy." *Exceptional Child*, 1966, 22m 152-155.

171. Woody, R. J., D. R. Krathwohl, N. Kagan, and W. Farquar. "Stimulated Recall in Psychotherapy Using Hypnosis and Videotape." *American Journal of Clinical Hypnosis*, 1965, 7, 234-241.

172. Woody, R. H, and P. Schauble. "Videotaped Vicarious Desensitization." *Journal of Nervous and Mental Disease*, 1969, 148, 281-285.

173. Wylie, R. C. *The Self Concept*. Lincoln, Nebraska: University of Nebraska Press, 1961.

APPENDICES

CHICAGO Q-SORT ITEMS

Appendix A

1. I feel uncomfortable while talking with someone
2. I put on a false front
3. I am a competetive person
4. I make strong demands on myself
5. I often kick myself for the things I do
6. I often feel humiliated
7. I doubt my sexual powers
8. I am much like the opposite sex
9. I have a warm emotional relationship with others
10. I am an aloof reserved person
11. I am responsible for my troubles
12. I am a responsible person
13. I have a feeling of hopelessness
14. I live largely by other peoples values and standards
15. I can accept most social values and standards
16. I have few values and standards of my own
17. I have a hard time controlling my sexual desires
18. It is difficult to control my aggression
19. Self control is no problem to me
20. I am often down in the dumps
21. I am really self-centered
22. I usually like people
23. I express my emotions freely
24. Usually in a mob of people I feel a little bit alone
25. I want to give up trying to cope with the world
26. I can live confortably with the people around me
27. My hardest battles are with myself
28. I tend to be on my guard with people who appear more friendly than expected
29. I am optimistic
30. I am just sort of stubborn
31. I am critical of people
32. I usually feel driven
33. I am liked by most people who know me
34. I have an underlying feeling that I am not contributing enough to life
35. I am sexually attractive
36. I feel helpless
37. I can usually make up my mind and stick to it
38. My decisions are not my own
39. I often feel guilty
40. I am a hostile person
41. I am contented
42. I am disorganized
43. I feel apathetic
44. I am poised
45. I just have to drive myself to get things done
46. I often feel resentful
47. I am impulsive

CHICAGO Q-SORT ITEMS
continued

Appendix A

48. It is important for me to know how I seem to others
49. I don't trust my emotions
50. It is pretty tough to be me
51. I am a rational person
52. I have the feeling I am just not facing things
53. I am tolerant
54. I try not to think about my problems
55. I have an attractive personality
56. I am shy
57. I need somebody else to push me through on things
58. I feel inferior
59. I am no one. Nothing really seems to be me
60. I am afraid of what other people think about me
61. I am ambitious
62. I despise myself
63. I have initiative
64. I shrink from facing a crisis of difficulty
65. I just don't respect myself
66. I am a dominant person
67. I take a positive attitude toward myself
68. I am assertive
69. I am afraid of a full-fledged disagreement with a person
70. I can't seem to make up my mind one way or another
71. I am confused
72. I am satisfied with myself
73. I am a failure
74. I am likeable
75. My personality is attractive to the opposite sex
76. I am afraid of sex
77. I have a horror of failing in anything I want to accomplish
78. I feel relaxed and nothing really bothers me
79. I am a hard worker
80. I feel emotionally mature
81. I am naturally nervous
82. I really am disturbed
83. All you have to do is just insist with me and I give in
84. I feel insecure within myself
85. I have to protect myself with excuses, with rationalizing
86. I am a submissive person
87. I am intelligent
88. I feel superior
89. I feel hopeless
90. I am self-reliant
91. I often feel aggressive
92. I am inhibited
93. I am different from others
94. I am unreliable
95. I understand myself

CHICAGO Q-SORT ITEMS
continued

96. I am a good mixer
97. I feel adequate
98. I am worthless
99. I dislike my own sexuality
100. I am not accomplishing

DENVER Q-SORT ITEMS

Appendix B

1. Have a Masters Degree in Speech Pathology
2. Have at least five years professional experience
3. Be able to relate well with others
4. Habe a sincere regard for the handicapped
5. Have a comprehensive background in learning theory
6. Be mature
7. Have a stable personality
8. Have an extensive background in psychoanalytic theory
9. Can train clients to become more sensitive to their own needs
10. Has a comprehensive background in human anatomy and neurology
11. Can work well with both organic and functionally based problems
12. Can relate structure to function
13. Can understand the articles in JSHR
14. Has a working knowledge in audiology
15. Can work well with all age ranges
16. Uses a multisensory approach to therapy
17. Should be a specialist within his field
18. Promotes public awareness of the value and needs for speech therapy
19. Knows the agencies available for aid in client job placement
20. Understands human psychological reactions to illness
21. Can converse intelligently with medical personnel
22. Has a neat and clean personal appearance
23. Establish realistic goals for the client
24. Be able to plan effective rehabilitation procedures
25. Have a good background in psychology
26. Be a good diagnostician
27. Be able to work well with others
28. Reads professional journals
29. Should have a high tolerance for ambiguity
30. Should stick to speech therapy and not personal problems
31. Should not be easily embarrassed
32. Should make referrals
33. Should consult with colleagues when uncertain
34. Works independently without supervision
35. Should not look upon himself as a psychotherapist
36. Is a member of ASHA
37. Is flexible and open minded
38. Expresses himself well
39. Is well adjusted
40. Understands himself
41. Uses a tape recorder as therapy
42. Is task oriented
43. Knows the value of negative reinforcement
44. Rewards the clients for good speech production
45. Is certified by the ASHA
46. Enjoys doing therapy
47. Shows empathy
48. Is professional in his dealing with others
49. Is sensitive to the needsof others
50. Gets along well with others

DENVER Q-SORT ITEMS
continued

Appendix B

51. Accepts objective criticism
52. Leaves diagnosis to the physician
53. Considers other things more important than personal appearance
54. Considers ability more important than formal academic achievement
55. Allows client to establish his own goals
56. Collaborates with client in planning rehabilitation procedures
57. Stresses therapy, not diagnosis
58. Maintains an appropriate professional relationship with his colleagues
59. Avoids becoming too theoretical about his discipline
60. Has a low tolerance for ambiguity
61. Becomes involved with the personal problems of his clients
62. Tries to hide his embarrassments
63. Avoids making referrals
64. Dislikes being supervised
65. Feels little or no need to consult with colleagues
66. Requires supervision
67. Is qualified as a psychotherapist
68. Leaves administration to the administrator
69. Avoids involvement with professional organizations
70. Does not feel obligated to have perfect speech himself
71. Believes that actions are more important than verbal facility
72. May have personal problems
73. Is not too introspective
74. Feels no need for special electronic equipment
75. Is person oriented
76. Uses negative as well as positive reinforcement
77. Feels that ASHA certification is an irrelevant requirement
78. Maintains social distance
79. Enjoys seeing the results of therapy
80. Avoids impulsive responses like laughing
81. Is never overly professional
82. Is not overly concerned with the needs of others
83. I not too sociable
84. Is youthful
85. Has a volatile personality
86. Is more concerned with practicality than with theory
87. Avoids sentimentality
88. Tries to avoid being evaluated by others
89. Believes that it is ability that counts, not professional experience
90. Sees little relationship between amount of study and clinical skill
91. Believes that a clinician does not need to know psychoanalytic theory
92. Has no business doing anything about a client's sensitivity to his own needs
93. Is not concerned with fees
94. Does not dwell on ethical questions
95. Does not use tokens or similar items to reward desirable speech behavior
96. Feels a knowledge of anatomy and physiology is of little practical value

DENVER Q-SORT ITEMS
continued

97. Prefers to work with organically based problems
98. Is concerned less with structure than with function
99. Is more interested in application than theory
100. Needs little background in audiology
101. Works more effectively with children than with adults
102. Uses a unisensory approach to therapy
103. Is not concerned with educating the public about the value of speech therapy
104. Works with all types of speech problems
105. Need not be a good teacher
106. Does not become emotionally involved with the welfare of his patients
107. Leaves job placement to others
108. Feels little need for a background in child psychology
109. Is not concerned about the difference between apraxia, agnosia ans aphasia
110. Feels little need to have a background in medical terminology
111. Understands the significance of social reinforcement
112. Understands the techniques and issues of verbal conditioning
113. Understands the essentials of secondary reinforcement
114. Is familiar with schedules of reinforcement
115. Is familiar with behavior modification terminology
116. Is familiar with behavior modification techniques
117. Understands behavior modification theories and methods to self-confrontation
118. Appreciates the significance of "base rates"
119. Knows the significance of immediate reinforcement
120. Understands the nature and the effects of punishment

SELF-PERCEPTION QUESTIONNAIRE

Appendix C

Think of how you appeared and sounded on the videotape you have seen. Then, rate yourself on the scales below. Try not to rate yourself on the basis of your impression of yourself from past experience, instead, try to base your rating of yourself on what you saw on the videotape. Please circle the number which you feel is closest to your judgment or feeling.

Pleasant	8	7	6	5	4	3	2	1	Unpleasant
Friendly	8	7	6	5	4	3	2	1	Unfriendly
Rejecting	8	7	6	5	4	3	2	1	Accepting
Helpful	8	7	6	5	4	3	2	1	Frustrating
Unenthusiastic	8	7	6	5	4	3	2	1	Enthusiastic
Tense	8	7	6	5	4	3	2	1	Relaxed
Distant	8	7	6	5	4	3	2	1	Close
Cold	8	7	6	5	4	3	2	1	Warm
Cooperative	8	7	6	5	4	3	2	1	Uncooperative
Supportive	8	7	6	5	4	3	2	1	Hostile
Boring	8	7	6	5	4	3	2	1	Interesting
Quarrelsome	8	7	6	5	4	3	2	1	Harmonious
Self-Assured	8	7	6	5	4	3	2	1	Hesitant
Efficient	8	7	6	5	4	3	2	1	Inefficient
Gloomy	8	7	6	5	4	3	2	1	Cheerful
Open	8	7	6	5	4	3	2	1	Guarded

SELF-CONFRONTATION QUESTIONNAIRE

Appendix D

Based on the tape of yourself you have just seen, please answer the questions below. Circle the number which you feel comes closest to your feelings, opinion, or eveluation.

How do you feel about this experience? How valuable was this experience as an aid in learning the practical aspects of therapy?

1	2	3	4	5	6	7	8	9
Quite Valuable		Fairly Valuable		Neutral		Fairly Value-less		Quite Value-less

To what extent did you look and sound like yourself on the videotape?

1	2	3	4	5	6	7	8	9
Exactly as I imagined I would		Somewhat like me		Neutral		Not very much like me		Not at all as I imagined I would

How effective were you in getting the client to respond or do what you want?

1	2	3	4	5	6	7	8	9
Quite Effective		Fairly Effective		Neutral		Fairly Ineffective		Quite Ineffective

How effective were you in describing, explaining, demonstrating, or modeling behavior to the client?

1	2	3	4	5	6	7	8	9
Quite Effective		Fairly Effective		Neutral		Fairly Ineffective		Quite Ineffective

How effective were you in rewarding the client for proper behavior?

1	2	3	4	5	6	7	8	9
Quite Effective		Fairly Effective		Neutral		Fairly Ineffective		Quite Ineffective

How effective were you in negatively reinforcing the incorrect client behavior?

1	2	3	4	5	6	7	8	9
Quite Effective		Fairly Effective		Neutral		Fairly Ineffective		Quite Ineffective

To what degree were you open, warm, and friendly as opposed to cold, distant and withdrawn with the client?

1	2	3	4	5	6	7	8	9
Quite warm and friendly		Fairly warm and friendly		Neutral		Fairly cold and distant		Quite cold and distant

SELF-CONFRONTATION QUESTIONNAIRE
continued

Appendix D

To what degree were you directive and dominant as opposed to permissive and nondirective?

1	2	3	4	5	6	7	8	9
Quite Dominant		Fairly Dominant		Neutral		Fairly Permissive		Quite Permissive

Now rate the session from a clinical standpoint on the following items:

The materials used in therapy were:

1	2	3	4	5	6	7	8	9
Highly useful and appropriate		Fairly Useful		Neutral		Fairly Useless		Quite useless and inappropriate

The room environment, including the table, blackboard, lighting, noise level, and so on, was:

9	8	7	6	5	4	3	2	1
Highly Inappropriate and distracting		Inadequate		Neutral		Adequate		Highly appropriate and inviting

The techniques used in therapy were:

1	2	3	4	5	6	7	8	9
Highly effective and useful to client		Fairly effective		Neutral		Fairly ineffective		Highly ineffective and confusing to client

The client's overall performance and progress showed:

1	2	3	4	5	6	7	8	9
Great improvement over previous sessions		some improvement		Neutral		Slight Regression		Regression to previous levels

The level of fulfillment of therapy goals was

9	8	7	6	5	4	3	2	1
None, no goals fulfilled		Minimal		Partial fulfillment		Fairly good, most goals achieved		Complete, all goals fulfilled

SELF-CONFRONTATION QUESTIONNAIRE continued

Appendix D

My performance, overall, as a clinician was:

9	8	7	6	5	4	3	2	1
Highly ineffective, possibly negative benefit to client		Somewhat ineffective		Neutral		Somewhat effective		Highly effective and of great benefit to client

DOUBLE SELF-CONFRONTATION QUESTIONNAIRE Appendix E

You have just watched a tape of yourself as you viewed a therapy session. Please answer the questions below based on this viewing:

How do you feel about this experience? How valuable was this experience as an aid to learning about yourself as a therapist?

1	2	3	4	5	6	7	8	9
Quite Valuable		Fairly Valuable		Neutral		Fairly Value-less		Quite Value-less

To what extent were you open, flexible, and honest as opposed to defensive, closed, and anxious during the self-confrontation?

1	2	3	4	5	6	7	8	9
Quite open		Fairly open		Neutral		Fairly defensive		Quite defensive

To what extent were you involved in the self-confrontation as opposed to uninvolved or withdrawn?

1	2	3	4	5	6	7	8	9
Quite involved		Fairly involved		Neutral		Fairly withdrawn		Quite withdrawn

To what extent did you look like and sound like yourself on the tape?

1	2	3	4	5	6	7	8	9
Extremely different from what I expected		Somewhat different from what I expected		Neutral		Pretty much as I expected		Exactly as I expected

APPENDIX F

SPEECH AND HEARING THERAPY SCORING MANUAL

SPEECH AND HEARING THERAPY

SCORING MANUAL

A manual for learning to
self-score the events of
therapy.

Daniel R. Boone, Ph.D.
Thomas E. Prescott, Ph.D.

University of Denver
Denver, Colorado

1971

This project partially funded by
Bureau for Education of the Handicapped,
Office of Education Grant #OEG-0-70-4758-607

This workbook, SPEECH AND HEARING THERAPY SCORING MANUAL, has been developed after four years of investigation of videotape-audiotape confrontation in the training of speech and hearing clinicians. Through funding by the Division of Research, Bureau for Education of the Handicapped, U.S. Office of Education, the investigators have developed many of the scoring matrices presented in this manual. We thank our friends in many field and training settings for their trial and error application of the systems.

TABLE OF CONTENTS

Page

Speech and Hearing Therapy Scoring Manual

Ten Category System (Individual Therapy) 6

Purpose of Category System 6

Procedures for Using 6

Category Descriptions. 10

Sample Transcript Using Ten Categories 10

Scoring Practice 15

Scoring Form 16

Sample Scoring Transcripts 18

Data Analysis. 25

Speech and Hearing Therapy Session Scoring Form. 27

Clinician Tabulation Sheet 30

Utilization and Implications 31

Ten Category Scoring Forms 36

Speech and Hearing Therapy Session Scoring Forms 46

Ten Category System (Group Therapy) 55

Purpose of Category System 55

Procedures for Using 56

Category Descriptions. 58

Page

Sample Transcript Using Ten Categories. 60

Scoring Practice. 64

Scoring Form. 65

Sample Scoring Transcripts. 66

Data Analysis 76

Speech and Hearing Therapy Session Scoring Form 77

Clinician Tabulation Sheet. 78

Utilization and Implications. 79

Ten Category Group Scoring Forms. 83

Speech and Hearing Therapy Session Scoring Forms. 93

Nineteen Category System (Individual Therapy). . . . 103

Purpose of Category System. 103

Procedures for Using. 104

Category Descriptions 105

Sample Transcript Using Nineteen Categories . . . 109

Scoring Practice. 111

Scoring Form. 112

Sample Scoring Transcripts. 115

Data Analysis 123

Speech and Hearing Therapy Session Scoring Form 149

Page

Utilization and Implications. 126

Clinician Tabulation Sheet. 127

Nineteen Category Scoring Forms 131

Speech and Hearing Therapy Session Scoring Forms. 141

Bibliography. 151

SPEECH AND HEARING THERAPY SCORING MANUAL

The purpose of this manual is to help the clinician find out what is happening in speech and hearing therapy, his own or someone else's. By learning the several scoring systems included in the manual, it is possible to listen to an audiotape replay or to listen-to-watch a videotape replay of therapy and score sequentially the therapy events as they occur. Or one could study a "live" session. By employing scoring matrices with the playback, it is possible to quantify the events of therapy in such a way that one could determine for example, how much the client talks, how much the clinician talks, the percentage of client correct and incorrect responses, clinician levels of response to client behaviors, etc.

The scoring systems presented here can quantify the interaction between two people or between a clinician and a small group. Each thing that happens in therapy may be categorized. It is possible to categorize the behavior of the clinician and categorize the behavior of the client. Perhaps of even more importance, the events of therapy may be placed in the sequential order in which they occurred. The scoring system will also isolate the specific behavior of the clinician when the client makes a correct response and what the clinician does when the client makes an incorrect response. For example, if the child makes an /r/ phoneme correctly in therapy and the clinician follows this correct production with a "that's good," the child has received a "good evaluative" (a positive reinforcement). Such positive reactions have the effect of increasing the child's correct /r/ production. If on the other hand, the child had said "wabbit" in response to the stimulus "rabbit" and the clinician responded, "that's not right", the child would have received a "bad evaluative" (punishment). Such a disapproving response from a clinician will often have inhibiting effects on the child's future incorrect response; if it is truly punishing to the child, he will attempt to make future /r/ words correctly.

This content and sequence analysis of the events of therapy enables the speech and hearing clinician to analyze his own therapy. Through such taped playback, also, it is possible to study the therapy of anyone, such as the master clinician. Or the clinical supervisor can study the speech and hearing therapy of the clinicians he supervises; the supervisor can add quantification to his judgments of what is a "good" and what is a "bad" session. Such quantification of therapy may enable us to look at therapy effectiveness. Historically, the field of speech pathology and audiology has placed its clinical focus on client pre- and post-evaluation with little emphasis given to evaluating the extensive therapy process which lies between our pre- and post-testing.

Speech and hearing clinicians in any setting may be asked the question, "How do we know speech therapy does any good?" Such an accountability question is usually answered by our making pre- and post-test comparisons. While we are often convinced that our therapy has done some good, we never know for sure just what we did or did not do in therapy which helped produce the desired change. Using a category system to score our own therapy will tell us when the thing we did (and the kind of thing we did) produced change. Or if our therapy is ineffective, we can see the lack of change in what we are doing.

The category systems presented in this manual may be applied to either audiotape or videotape playback. Four years of development* have gone into these matrices with application of the systems used in various university training programs and in public school-hospital settings. Our experience has found that in the typical 30-minute therapy

* See references in bibliography at end of manual

period, only a five minute segment need be analyzed for a representative sample of therapy. Early in our research efforts on confrontation we selected randomly this five minute sample; later, we found it to be more meaningful to select that section of therapy for analysis which the clinician himself felt to be most representative of his therapy.

These therapy scoring systems have demonstrated their utilization with any kind of therapy problem--articulation, hearing, language, stuttering, and voice. While the original model for the category systems was an operant stimulus-response paradigm, system application has found the model adaptable to any kind of therapy approach, be it motor shaping, operant, traditional, non-directive--to name but a few of the more frequently used therapy approaches. Much of our early investigation utilized only two person interaction analyses, and only more recent group adaptation of the ten category system is included in this manual.

For reader convenience and for ease in learning how to score therapy, each of the therapy analyses systems will be presented in this manual following this same format:

Purpose of Category System

Procedures for Using System

Category Descriptions

Sample Transcript

Scoring Practice

Data Analysis

Utilization and Implications

Scoring Forms

Summary Data Forms

TEN CATEGORY SCORING SYSTEM

Individual Therapy

Purpose of Category System

The ten category system is ideal for scoring oneself. Although this system is highly useful for the external supervisor to use with or without the clinician joining him, the ten category system lends itself well as a tool for use in self-supervision. The ten category system can readily be learned by anyone interested in scoring the events of therapy. By using this system, the clinician who is employed in a setting without any direct supervision or consultation can determine "what is going on in his therapy". With some practice, it is possible to place each of the events into any one of the ten categories.

Procedures for Using Ten Category System

Individual therapy may be studied using the ten category system in one of two ways: single confrontation or double confrontation. In single confrontation, the clinician records himself using either audiotape or videotape in therapy. He then selects a five minute segment of the playback and scores this. In double confrontation, one records himself in therapy, watches the five minute playback with his supervisor, and records himself watching himself. He then watches himself watching himself. This double procedure may sound rather complex and unnecessary, but we do have research data which confirms that double confrontation is most valuable for people who tend to rate themselves too low (see Boone and Goldberg, 1969). The double confrontation seems to have the effect of forcing people to raise their self-images to more realistic levels (those levels that the professional peer world seems to view them). Single confrontation requires only one recorder, audio or video. Double confrontation requires two videotape recorders as you must record on one instrument what is being played back on the second. We will develop the confrontation procedures separately for single and double confrontation using the ten category system. We might add that double confrontation has only been tried with studying individual therapy sessions using the ten category system. Listed below are the separate steps required for using the system in single confrontation:

1. The clinician records, using either audiotape or videotape, most of the therapy session.
2. The clinician (and/or the supervisor) selects five minutes from the total session. Perhaps any five

minute segment is appropriate that the clinician would like to see again or feels is representative of the session.

3. The five minute segment is played back without stopping. It is then rewound and played back again. This time it is scored.
4. The clinician scores the playback using the ten category system, stopping the playback whenever necessary. Scoring of a typical five minute segment takes the scorer a total of about seven to eight minutes.
5. Segment scores are then totaled and summarized on the session scoring form. The scorer computes the various ratios on the Session Scoring Form. The average length of time for determining and recording the data on the session scoring form is about seven or eight minutes.
6. Total self-scoring time using the ten category system is approximately 20 minutes (five minute playback, seven or eight minutes scoring on second playback, seven or eight minutes of summary scoring).

Listed below are the separate steps to be used in double confrontation using the ten category system:

1. The clinician records, using either audiotape or videotape, most of the therapy session.
2. The clinician (and/or the supervisor) selects five minutes from the total session.
3. The five minute segment is played back without stopping. It is then rewound and played back again. This time it is scored.
4. The clinician and his supervisor are videotaped while they are watching the therapy playback and scoring of the tape. This new taping of the playback requires, obviously, a second videorecorder. The scoring of a typical five minute segment will require about seven to eight minutes. The second taping is done while the seven to eight minute scoring session is going on; therefore, no additional time is required for the second taping.
5. The segment scores are totaled and summarized on the session scoring form, which will require approximately another seven or eight minutes.
6. The clinician (and perhaps the supervisor) watch the second replay which requires seven or eight minutes. The clinician literally watches himself watching himself. This second playback is not

scored and allowed to run without stop/start. The value of this double confrontation appears to be in improving self-image, as described by Boone and Goldberg, 1969 (see Bibliography).

Ten Category Descriptions

Category 1	Explain, Describe	Clinician describes and explains the specific goals or procedures of the session.
Category 2	Model, Instruction	Clinician specifies client behavior by direct modeling or by specific request.
Category 3	Good Evaluative	Clinician evaluates client response and indicates a verbal or non-verbal approval.
Category 4	Bad Evaluative	Clinician evaluates client response as incorrect and gives a verbal or non-verbal

		disapproval.
Category 5	Neutral-Social	Clinician engages in behavior which is not therapy goal oriented.
Category 6	Correct Response	Client makes a response which is correct for clinician instruction or model.
Category 7	Incorrect Response	Client makes incorrect response to clinician instruction or model.
Category 8	Inappropriate-Social	Client makes response which is not appropriate for session goals.
Category 9	Good Self-Evaluative	Client indicates awareness of his own correct response.
Category 10	Bad Self-Evaluative	Client indicates awareness of his own incorrect response.

Sample Transcript Using the Ten Categories

The following transcript of a brief section of a therapy session illustrates the application of the ten category system to actual therapy events:

Category #	Speaker	Dialogue
1	Clinician:	Well, today, Topper, we're going to go over our /r/ words.
8	Client:	We're going to go hiking over the weekend.
1	Clinician:	You'll have a lot of time to practice your new /r/ sound up there.
8	Client:	We get to stay up until Monday morning. So I won't be here next week.
5,1	Clinician:	Let's talk about the camping trip when you get back. Today I want us to get some work in.
8	Client:	You never want to talk anymore.
5	Clinician:	We just don't have the time to talk so much, Topper.
8	Client:	You want to go with us, don't you?

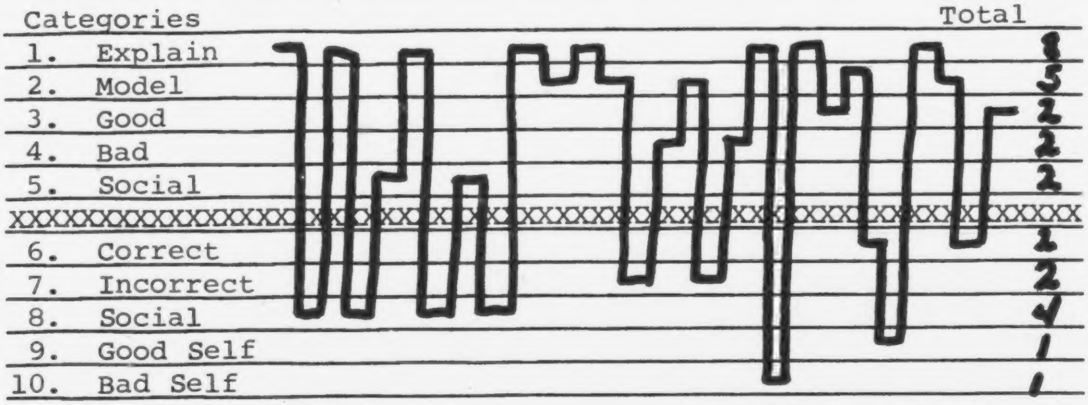
1	Clinician:	We'll start saying our /r/ words now. I'll turn on the recorder and if we get a good one, we'll play it back and let you hear it.
2		Rah, rah, rah.
1		Say the words after me now, Topper. I want to hear those /r/s coming through.
2		Rah, rah, rah.
7	Client:	Wah, wah, wah.
4	Clinician:	I don't want "wahs".
2	Client:	Wah, wah, wah, wah.
4	Clinician:	Nope.
1		You're rounding your lips too much.
10	Client:	I never could say it right.
1,3	Clinician:	Did I hear you say "right"? That was a perfect /r/, Topper.
2		Say, "right, right, right".
6	Client:	Right, right, right.

9	Client:	Hey, how come that /r/ is so good?
1	Clinician:	Let's hear that good /r/ again.
2		Tape Recorder: right, right, right.
6	Client:	Right, right, right.
3	Clinician:	Now you've got it just the way we want it.

Scoring Practice

The therapy dialogue above has been scored using the ten category scoring form below:

TEN CATEGORY SCORING FORM



Categories	Total
1. Explain	8
2. Model	5
3. Good	2
4. Bad	2
5. Social	2
XXXXXXXXXXXXXXX	
6. Correct	1
7. Incorrect	2
8. Social	4
9. Good Self	1
10. Bad Self	1

You will note that we use a continuous line from one category to another. This continuous line allows the scorer to "know" where he is on the scoring form without requiring close visual attention. We have found it to be a quicker and more accurate way of scoring, rather than just putting a dot or an X in each category row.

Count the frequency of each category event by counting the number of times a category occurred during the scored therapy segment. These summarized counts are then written on the right margin of each scoring sheet. Eventually the total numbers and identified sequences are transferred to the Session Scoring Form (page 16). Read the transcript again and see if you can mark the scoring form below to match the one already scored on that session which is shown above. Cover the scoring model above while you do this. When you finish scoring, see if the model matches what you have done.

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

If you scored the practice scoring form correctly, you may already know the ten category system and be ready to do some practice scoring. If you didn't agree with the scoring model of the transcript, go over the category descriptions once again on pp. 12-14. Try the scoring again, if you feel this would help you, by going back to the transcript, masking out the category designations and score the practice form below:

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Before practicing some more transcript scoring on practice forms, let us briefly review the process. Each event of therapy is categorized into one of the ten categories described. When it is difficult to make a decision as to precisely what category should be assigned the event, make the arbitrary decision to place the behavior where you think it most belongs. Since the categorization is generally of one's own therapy, there is no absolute in categorization. If you're wrong about occasional categorization, it will not seriously impair your overall categorization effectiveness. Learn to make your category decision quickly on the typed transcripts so you can then practice scoring the fast movement of an actual session, as heard or viewed on taped playback. You will find that the continuous line on the scoring form, leading from category to category, makes the task easier and quicker.

We will now include two brief transcripts. Score each one separately on the sample scoring form below the transcript. The first transcript includes our category scoring; mask our category numbers and see if you agree with our scoring. The second transcript has not been scored by the authors.

Sample Scoring Transcript #1

Category	Speaker	Dialogue
1	Clinician:	O.K. First, we will work on the sounds a little bit. What is your sound? Let's turn on the tape recorder. What is your sound, Richard?
8	Richard:	Huh?
2	Clinician:	What is your sound?
7	Richard:	Oh yeah...I am Wichard...wwwww
6		.......rrrrrrrrr.........
3	Clinician:	Very good. You changed it. We won't go back and listen to it right away. But I want you to
1,2		hear that rrrrrrr.
6	Richard:	rrrrrrr.

3 Clinician: You're keeping your tongue up
1 there, Richard. Did you hear
2 that? You flipped it right up.
rrrrrrrr.

6 Richard: rrrrrrr.

3 Clinician: Good. Let's listen to that.
1 Let's go back and listen to that.
You can even make counts of that.
You write down the ones you think
are good as you listen to it.

8 Richard: Make it up to five.

1 Clinician: Five is the best. Five is Mrs.
Streit's.

8 Richard: No. Mrs. Streit is down here
and five is the best.

1 Clinician: Five is the best. Is Mrs. Streit's
O.K.? Is mine O.K. too? Shall I
write upside down? Let's listen
and you mark down every time you
hear one.

2 (On tape) Oh yeah....Wichard.....

2 Clinician: What did you think of Wichard?

		I mean Richard? Did you like it?
6	Richard:	Nods yes
1	Clinician:	Should we go back and listen to it?
8	Richard:	Yeah.
2	(On tape)	Oh yeah....Wichard.....
1	Clinician:	I want you to listen to that and see if you really like it.
2		Maybe you'll hear some better ones later. Was that Wichard or Richard?
6	Richard:	Wichard.
3,1	Clinician:	Yeah. Is that a 1, 2, or 3?
6	Richard:	It is about a .... 1.
3	Clinician:	You didn't like it. I think you are right.

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Sample Scoring Transcript #2

Category	Speaker	Dialogue
____	(On tape)	rrrrrrrr......very good....
____	Clinician:	There were two there. What was the first one like?
____	Richard:	rrrrrrr...they were kind of like the same.
____	Clinician:	Now listen...I don't think they are...quick now...
____	(On tape)	rrrrrrr
____	Clinician:	Did they change?
____	Richard:	Yeah...the first one was kinda like a 2.
____	Clinician:	Right. Very good listening.
____	(On tape)	Right...you flipped it up...rrrrrr
____	Richard:	That one is a (writes a 3 on the paper)
____	Clinician:	A 3 huh? Kind of in/between.
____	(On tape)	rrrrrrrr
____	Clinician:	What did you think of that?
____	Richard:	That was about a one or maybe a three.

____	Clinician:	I think it was about a three. A pretty good try.
____	(On tape)	rrrrrrrrr
____	Clinician:	Oh boy! What was that one?
____	Richard:	rrrrrrr
____	Clinician:	Which one?
____	Richard:	(Marks a two on the paper)
____	Clinician:	Oh, you have to be careful. That was a good one. You got a good "r" sound. I'd even put it under 5. I really think it was an excellent one. Want to listen to it again? That was so good I want you to hear it again because you really got that sound.
____	(On tape)	rrrrrrr
____	Clinician:	Good. You kinda went off and then you went back on again. I'd count that as a pretty good one. Are there any more? Nope. That is all. We will

start from here. O.K.? And we'll
record some more.

____ Richard: (nods)

____ Clinician: Let's work a little bit on
row - row - row

____ Richard: Wow - wow - wow - wow

____ Clinician: Uh...let's try that again...
it wasn't too bad...
row - row - row

____ Richard: wow - wow - wow

____ Clinician: row

____ Richard: wow

____ Clinician: ready

____ Richard: weady

____ Clinician: ride

____ Richard: wide

____ Clinician: run

____ Richard: wun

____ Clinician: O.K....how about this word...
car sun

____ Richard: cah sun

____ Clinician: car sun

____ Richard: car sun

_____ Clinician: How about car moon?

_____ Richard: cah moon

_____ Clinician: car

_____ Richard: cah

_____ Clinician: Almost...car

_____ Richard: car

_____ Clinician: Almost got there, Richard...
can you do it again?

_____ Richard: car

_____ Clinician: car...oh, almost there, isn't it?

_____ Richard: car

_____ Clinician: Right. Car.

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Accuracy and quickness in scoring of therapy improves with practice. You will find included in the section, Scoring Forms on page 36 , ample practice forms for use in further scoring practice.

Data Analysis

The reason we score therapy tapes, either audio or video, is to find out what happens in therapy. We may use the same scoring system "live" if we wish, observing and scoring therapy that is in process. The obvious advantage of scoring a taped segment is that the tape can be stopped and/or restarted for the scorer's convenience. "Live" scoring requires that the scorer have considerable scoring experience. Regardless of the method of the scoring, however, the individual scores and score sequences should have meaning to the clinician or his supervisor. The data which we obtain is transferred to the Speech and Hearing Therapy Session Scoring Form.

The Session Scoring Form on the following page represents the summary data obtained from the sample transcript describing the boy, Topper, as seen on page 12 . The Ten Category Scoring Form for that transcript is on page 15 . The summary data (the frequency of occurrence for each of the ten categories) is summarized in the right hand margin of the form. These summary data are then totaled under the Category Counts column. For example, category 1, Explain, occurred eight times in the total segment; category 2, Model, occurred 5 times; category 3, Good, two times; etc. A total of 29 categories occurred, 19 by the clinician and 10 by the client. These raw counts are then further used. The Sequence Counts column is where particular category sequences are recorded. For example, category 6 is followed by a 3 only one time; category 7 is followed by category 4 two times; category 8 is followed twice by either a category 1 or 2. These sequences will be utilized, along with individual category counts for computing the various ratios listed under Ratio Scoring.

The ratios under the Ratio Scoring column are generally computed by counting one kind of behavior and dividing that

②

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician: Jane
Client: Topper
Date: 3-2-71

Category Counts			Category Counts		
Category	# of Events	% of Total 29	Category	# of Events	% of Total
1	8	28	6	2	07
2	5	17	7	2	07
3	2	07	8	4	14
4	2	07	9	1	03
5	2	07	10	1	03
Clinician Total	19	66	Client Total	10	34

Sequence Counts

Sequence	# of Events
6/3	1
7/4	2
8/1,2	2

Ratio Scoring

Correct Response	$\frac{6}{6,7}$	=	.50
Incorrect Response	$\frac{7}{6,7}$	=	.50
Good Eval Ratio	$\frac{6/3}{6}$	=	.50
Bad Eval Ratio	$\frac{7/4}{7}$	=	1 00
Inappro. Response	$\frac{8}{6,7,8}$	=	.50
Direct Control	$\frac{8/1,2}{8}$	=	.50
Socialization	$\frac{5+8}{\text{Total}}$	=	.21

Therapy Evaluation

	No Yes
A Good Session	1--2--[✓ 3]--4--5--6--7--8--9
Therapist Effective	1--2--[✓ 3]--4--5--6--7--8--9
Client Effective Progress	1--2--3--[✓ 4]--5--6--7--8--9
Client Effectiveness Measures	20 = 6 correct

Comments: Topper was restless, difficult to control today behavior by a summary of several behaviors. For example, the first ratio shown, Correct Response, is computed by adding the total number of correct responses (category 6) and dividing this by the total number of correct (category 6) and incorrect (category 7) responses, which in effect, yields the percentage of correct responses. We are able to compute the percentage of incorrect responses, good evaluatives, bad evaluatives, inappropriate responses, direct control of child after an inappropriate response, and socialization between client and clinician.

Each therapy session is also rated by the clinician relative to session effectiveness, therapist effectiveness, and client effectiveness; some objective measure (such as counting number of correct responses in a set, pre-determined task) is also added as quantitative data characterizing the particular session. When the Session Scoring Form is completed, the events of therapy have been categorized and the clinician's impressions and effectiveness measures have been recorded. If the clinician and/or his supervisor are interested in studying only one particular therapy session, no further recording of data is necessary. The Session Scoring Form may be analyzed in several different ways, as we will discuss in the next section, Utilization and

Implications. However, if either the clinician or the supervisor is desirous of keeping over time the clinical data, either on a single client or on the overall clinician caseload, the data is summarized on the Clinician Tabulation Sheet. The data from each individual therapy segment that has been scored is recorded on this summary sheet, which provides spaces for recording 16 successive session summaries. An example of use of the Clinician Tabulation Sheet would be for the clinician to use such a summarization for one of his clients; that is, once weekly he would score a recorded segment of his therapy; he would then place his summary scores on the Tabulation Sheet; he would then have recorded data for 16 continuous and successive therapy sessions. A Clinician Tabulation Sheet has been completed for the therapy segment scored for the sample Session Scoring Form on page 27 .

CLINICIAN TABULATION SHEET

		Session #																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Percentage of Categories	1	22																
	2	17																
	3	7																
	4	7																
	5	7																
	6	7																
	7	7																
	8	14																
	9	3																
	10	3																
% of Total Accounted for by Clinician Events		66																
% of Total Accounted for by Client Events		34																
Correct Response Ratio		50																
Incorrect Response Ratio		.50																
Good Evaluative Ratio		.50																
Bad Evaluative Ratio		1.0																
Inappropriate Response Ratio		.50																
Direct Control Ratio		.50																
Socialization Ratio		.21																
Therapy Evaluation Over Time		--																
Session Quality Rating		3																
Therapist Effectiveness Rating		3																
Client Progress Rating		4																

Utilization and Implications

This kind of content and sequence analysis revealed by the scoring of therapy permits us to become aware of what is going on in therapy. By scoring what happens, we will be able to see what we are doing and what our clients are doing. If we think we have a good session, or a bad one for that matter, we should be able to quantify the "goodness" or "badness" of that session. Since this is only a method of quantifying what happens in therapy, the quantification itself has no meaning. We must relate the values obtained to the type of client problem and to the particular session goals we might have for the client. In effect, we may use the data any way we wish.

For example, the sample session of Topper, which we have used as an example scoring session, has yielded a number of values. We found that 66% of the session activity is dominated by the clinician with the boy performing only 34% of the time. In the investigations reported in the Bibliography, it was found that in the typical therapy session that clinician activities usually do not exceed 60% of the total session activities. In this case, control of the boy might have required more than average clinician participation. The boy was only successful 50% of the time stimuli were presented to him. Generally, our finding is that successful therapy is characterized by the client making 60 to 80% correct responses. Perhaps the activity was too difficult for the boy or perhaps the overall session was too uninteresting. His correct responses were followed by good evaluations 50% of the time; his errors were always followed by a negative evaluation by the clinician. Perhaps his relatively high rate of incorrect responses contributed to his somewhat random, conversational behavior, which accounted for 50% of all of his responses in the therapy session. Half of the time the clinician ignored his inappropriate responses, following them with either a new explanation or a new model. Both the client and the clinician engaged in socialization 21% of the time. On a nine point rating scale the clinician rated her session a 3 for overall session quality, a 3 for personal therapy effectiveness, and a 4 rating for client progress.

All of the above quantification was extracted from a sample therapy segment which lasted approximately only one minute. In the typical five minute therapy sample, we would have about five times more data to report. Our scoring and summary procedures would be the same. Obviously, the scores by themselves would have little meaning. Therefore, the clinician and/or his supervisor must place value judgments relative to what the various category counts and sequences mean.

The scoring system is only a measurement tool which enables us to study more precisely speech and hearing therapy. It can make us aware of the clinical behaviors of both clinician and client. How much of any one event or sequence of events we want to do in any one session must be determined by the clinician or the supervisor. What the measurements mean requires clinical judgment. For example, as noted in the above example, the clinician performed 66% of the therapy events; whether this percentage of clinician activity is "good or bad" is wholly dependent on the situation surrounding the therapy. All the category system can do for us is identify the various percentages and ratios of events to which we must apply our relative therapy values.

The ten category system is basically designed for studying oneself in therapy. This system does not identify the type of modality (auditory, visual, or kinesthetic modeling) we might provide the client nor does it specify if his responses were nonverbal or verbal (auditory or visual). We might point out that the nineteen category system presented on pp. 104 to 109 includes modality specificiation. Identifying what the instruction or response is does not appear necessary, however, in self-scoring. We already know what the stimuli and responses were. The category system only summarizes the events and the sequence of events. Specification of modality is usually not necessary when scoring yourself. Supervisors have also found that the ten category system lends itself well for sequencing the therapy session of someone else. If it becomes desirable to note specifics of stimuli or response, we have found just writing the notation on the scoring sheet at the place the behavior occurred serves as a handy way of remembering what happened. Many times a supervisor may score a session using the ten category system without the clinician being present; later, they can "relive" the session by following the sequence of events on the Ten Category Scoring Form. Once, again, noting on the form specific words representing a topic to be remembered, or a stimulus, or a response pattern to be recalled, will serve the supervisor and clinician very well in their reconstruction of the therapy session. If the session has been either audio or videotaped, there is little need to add these key words to the scoring form as direct observation of the event will facilitate rather complete recall.

Finally, let us say once again, use the ten category system and its scoring forms as you wish. It is designed to help you study the content and sequence of events of your therapy. Do not become so bewildered by its mechanics that you find yourself unable to use it. Practice scoring some of your own tapes. Use the practice forms and summary forms as you wish. Our average student was able to learn the ten category system validly and reliably after about one hour of practice. Additional practice, however, will make the ten category system quickly functional, enabling you to use the system with only minimal stop-starting of the tape recorder. Obviously, live scoring requires continuous practice because the typical events of therapy move surprisingly fast.

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

Categories	Total
1. Explain	
2. Model	
3. Good	
4. Bad	
5. Social	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
6. Correct	
7. Incorrect	
8. Social	
9. Good Self	
10. Bad Self	

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response $\frac{6}{6,7}$ = ______
Incorrect Response $\frac{7}{6,7}$ = ______
Good Eval Ratio $\frac{6/3}{6}$ = ______
Bad Eval Ratio $\frac{7/4}{7}$ = ______
Inappro. Response $\frac{8}{6,7,8}$ = ______
Direct Control $\frac{8/1,2}{8}$ = ______
Socialization $\frac{5+8}{\text{Total}}$ = ______

Therapy Evaluation

	No Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective Progress	1--2--3--4--5--6--7--8--9

Client Effectiveness Measures ____________ = ______________

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response	$\frac{6}{6,7}$	=	______
Incorrect Response	$\frac{7}{6,7}$	=	______
Good Eval Ratio	$\frac{6/3}{6}$	=	______
Bad Eval Ratio	$\frac{7/4}{7}$	=	______
Inappro. Response	$\frac{8}{6,7,8}$	=	______
Direct Control	$\frac{8/1,2}{8}$	=	______
Socialization	$\frac{5+8}{\text{Total}}$	=	______

Therapy Evaluation

	No Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective Progress	1--2--3--4--5--6--7--8--9
Client Effectiveness Measures	__________=____________

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response $\frac{6}{6,7}$ = ______
Incorrect Response $\frac{7}{6,7}$ = ______
Good Eval Ratio $\frac{6/3}{6}$ = ______
Bad Eval Ratio $\frac{7/4}{7}$ = ______
Inappro. Response $\frac{8}{6,7,8}$ = ______
Direct Control $\frac{8/1,2}{8}$ = ______
Socialization $\frac{5+8}{\text{Total}}$ = ______

Therapy Evaluation

	No		Yes
A Good Session	1--2--3--4--5--6--7--8--9		
Therapist Effective	1--2--3--4--5--6--7--8--9		
Client Effective Progress	1--2--3--4--5--6--7--8--9		
Client Effectiveness Measures	__________=____________		

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	____	____
2	____	____
3	____	____
4	____	____
5	____	____
Clinician Total	____	____

Category Counts

Category	# of Events	% of Total
6	____	____
7	____	____
8	____	____
9	____	____
10	____	____
Client Total	____	____

Sequence Counts

Sequence	# of Events
6/3	____
7/4	____
8/1,2	____

Ratio Scoring

Correct Response	$\frac{6}{6,7}$	=	____
Incorrect Response	$\frac{7}{6,7}$	=	____
Good Eval Ratio	$\frac{6/3}{6}$	=	____
Bad Eval Ratio	$\frac{7/4}{7}$	=	____
Inappro. Response	$\frac{8}{6,7,8}$	=	____
Direct Control	$\frac{8/1,2}{8}$	=	____
Socialization	$\frac{5+8}{\text{Total}}$	=	____

Therapy Evaluation

	No Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective Progress	1--2--3--4--5--6--7--8--9
Client Effectiveness Measures	________=__________

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1		
2		
3		
4		
5		
Clinician Total		

Category Counts

Category	# of Events	% of Total
6		
7		
8		
9		
10		
Client Total		

Sequence Counts

Sequence	# of Events
6/3	
7/4	
8/1,2	

Ratio Scoring

Correct Response $\frac{6}{6,7}$ = ____ ____
Incorrect Response $\frac{7}{6,7}$ = ________
Good Eval Ratio $\frac{6/3}{6}$ = ________
Bad Eval Ratio $\frac{7/4}{7}$ = ________
Inappro. Response $\frac{8}{6,7,8}$ = ________
Direct Control $\frac{8/1,2}{8}$ = ________
Socialization $\frac{5+8}{\text{Total}}$ = ________

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective Progress	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ____________ = ______________

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response	$\frac{6}{6,7}$	=	______
Incorrect Response	$\frac{7}{6,7}$	=	______
Good Eval Ratio	$\frac{6/3}{6}$	=	______
Bad Eval Ratio	$\frac{7/4}{7}$	=	______
Inappro. Response	$\frac{8}{6,7,8}$	=	______
Direct Control	$\frac{8/1,2}{8}$	=	______
Socialization	$\frac{5+8}{\text{Total}}$	=	______

Therapy Evaluation

	No Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective Progress	1--2--3--4--5--6--7--8--9
Client Effectiveness Measures	__________=____________

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response	$\frac{6}{6,7}$	=	______
Incorrect Response	$\frac{7}{6,7}$	=	______
Good Eval Ratio	$\frac{6/3}{6}$	=	______
Bad Eval Ratio	$\frac{7/4}{7}$	=	______
Inappro. Response	$\frac{8}{6,7,8}$	=	______
Direct Control	$\frac{8/1,2}{8}$	=	______
Socialization	$\frac{5+8}{\text{Total}}$	=	______

Therapy Evaluation

	No	Yes
A Good Session	1--2--3--4--5--6--7--8--9	
Therapist Effective	1--2--3--4--5--6--7--8--9	
Client Effective Progress	1--2--3--4--5--6--7--8--9	
Client Effectiveness Measures	__________=____________	

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response $\frac{6}{6,7}$ = ______
Incorrect Response $\frac{7}{6,7}$ = ______
Good Eval Ratio $\frac{6/3}{6}$ = ______
Bad Eval Ratio $\frac{7/4}{7}$ = ______
Inappro. Response $\frac{8}{6,7,8}$ = ______
Direct Control $\frac{8/1,2}{8}$ = ______
Socialization $\frac{5+8}{\text{Total}}$ = ______

Therapy Evaluation

	No	Yes
A Good Session	1--2--3--4--5--6--7--8--9	
Therapist Effective	1--2--3--4--5--6--7--8--9	
Client Effective Progress	1--2--3--4--5--6--7--8--9	
Client Effectiveness Measures	__________=____________	

Comments:

TEN CATEGORY
SPEECH AND HEARING THERAPY
SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
6/3	______
7/4	______
8/1,2	______

Ratio Scoring

Correct Response $\frac{6}{6,7}$ = ______
Incorrect Response $\frac{7}{6,7}$ = ______
Good Eval Ratio $\frac{6/3}{6}$ = ______
Bad Eval Ratio $\frac{7/4}{7}$ = ______
Inappro. Response $\frac{8}{6,7,8}$ = ______
Direct Control $\frac{8/1,2}{8}$ = ______
Socialization $\frac{5+8}{\text{Total}}$ = ______

Therapy Evaluation

	No	Yes
A Good Session	1--2--3--4--5--6--7--8--9	
Therapist Effective	1--2--3--4--5--6--7--8--9	
Client Effective Progress	1--2--3--4--5--6--7--8--9	

Client Effectiveness Measures ____________=______________

Comments:

TEN CATEGORY SCORING SYSTEM

Group Therapy

Purpose of Category System

The group therapy scoring system is based on the same ten categories used in analyzing individual therapy. Since much of the speech and hearing therapy provided children is in groups, it became desirable to adapt the individual scoring system for application with groups. The group scoring system allows the clinician to quantify the kind of events and sequence of events which occur in the therapy group. The clinician can determine by analyzing a segment of his group therapy the relative talking time of clinician and clients, the relative talking time of individual clients compared with one another, identify those children who provide others with teaching models and explanations, determine the kind and amount of reinforcement children give one another, determine the number of correct and incorrect responses of each group member, and provide data specific to the amount of group socialization. Field testing of the group therapy scoring system has found it to provide the clinician much useful information about his group therapy.

Procedures for Using the Group Ten Category System

In order to apply group therapy analyses, the clinician must make either an audiotape or videotape recording of his therapy. He then selects a five minute segment (or longer if he wishes) from the total therapy session for analysis. The specific steps for applying the system for group therapy analysis are as follows:

1. The clinician records, using either audiotape or videotape, most of the therapy session. With videotape, care should be taken to place the camera so that each member of the group, including the clinician, is readily visible.
2. The clinician (and/or the supervisor) selects five minutes from the total session. It is often most useful to select that portion of therapy which the clinician wants to study, i.e., studying that section of the session where the clinician might feel he had difficulty in controlling the group. The matrix scoring of that therapy segment might provide real insights as to what contributed to his "difficulty".
3. The first playback of the therapy segment is with-

out stopping. On the second playback, the therapy is scored with the group ten category system. Stopping and rewinding, looking at sequences over again, should be done whenever necessary. Group therapy scoring takes slightly longer than individual therapy scoring because simultaneous behaviors of all group members are scorable. While one feature of this group scoring method is that it allows for the scoring of behaviors which occur simultaneously, it does require more time. The typical scoring time for a five minute group segment would be 10 minutes.

4. Segment scores are then totaled and summarized on the group session scoring form, both for the total group session and for each group member individually. The average length of time for determining and recording data on the group is about 10 minutes.
5. Total scoring time in using the group scoring analysis is approximately 25 minutes (five minute playback, 10 minutes scoring the second playback, and 10 minutes of summary scoring).

Group Ten Category Descriptions

While the category descriptions for group scoring are the same basic categories used in individual therapy scoring, there is one basic difference. That is, in group analysis we do not use five categories for clinician behavior and five categories for the client; instead, all members of the therapy group may do any of the category behaviors; for example, one of the clients in the groups may provide other group members both instruction and reinforcement. In good group therapy, the "teachers" are often the children in the group.

Group Ten Category Descriptions

Category 1	Explain, Describe	Clinician or client describes and explains the specific goals or procedures of the session.
Category 2	Model, Instruction	Clinician or client specifies clients behavior by direct modeling or by specific request.
Category 3	Good Evaluative	Clinician or client evaluates client response and indicates a verbal or nonverbal approval.

Category 4	Bad Evaluative	Clinician or client evaluates client response as incorrect and gives a verbal or nonverbal disapproval.
Category 5	Neutral-Social	Clinician engages in behavior which is not therapy goal oriented.
Category 6	Correct Response	Client makes a response which is correct for clinician instruction or model.
Category 7	Incorrect Response	Client makes incorrect response to clinician instruction or model.
Category 8	Inappropriate-Social	Client makes response which is not appropriate for session goals.
Category 9	Good Self-Evaluative	Client indicates awareness of his own correct response.

Category 10	Bad Self-Evaluative	Client indicates awareness of his own incorrect response.

Sample Transcript Using Group Ten Categories

This transcript was taken directly from a three children articulation group. The clinician is designated as T; Bob is A; Helen is B; and Fred is C. The categories are designated on the left margin. The clinician (T) or child designation (A,B,C) is made followed by the dialogue.

Categories	By Whom	Dialogue
1	T-Clinician	What is your sound, Bob?
6	A-Bob	sssssss.
3,1	T-Clinician	Good. Can you think of a word that has that sound?
7,10,6	A-Bob	Thoup. (Shakes head). No, soup.
3,1,2	T-Clinician	Very good. What is your sound, Helen? rrrrr.
6	B-Helen	rrrrrrrrr.
3,1	T-Clinician	Very good. Can you think of a word that begins with that sound?

7	B-Helen	Wed?
1	T-Clinician	Fred, you have the same sound as Helen. Did she say her word correctly?
4,1	C-Fred	No. It's red, not wed.
7	B-Helen	Wed.
4,2	C-Fred	No, you don't know how to make it good. I say, "rrrrrred."
2	T-Clinician	Helen, you give us a word that has your sound in it, and we'll have Fred say a sentence using your word.
7,10	B-Helen	Wead. (Shakes head, negatively).
4,2	T-Clinician	No, Helen wants to say "read". Let us hear you, Fred, use "read" in a sentence.
6	C-Fred	I read a story everyday.
8	A-Bob	I read a lot of books about the Indians.

1	T-Clinician	I like to read a lot of Indian books, too.
8	A-Bob	Yeah, they lived in tents and ate dog meat.
8	B-Helen	Icky. That makes me sick. I wead betta books than that.
1	T-Clinician	Did Helen make any sounds wrong when she was talking?
8	A-Bob	(Speaks simultaneously with clinician above). They did a lot of other stuff, too.
4,6	C-Fred	She said "wead".
3,1	T-Clinician	That's right, Fred. How should we say that word?
6	C-Fred	rrrread.
2	T-Clinician	No, Helen, say "read".
6,9	B-Helen	Read. (smiles at her success)
2	T-Clinician	Bob, say "read" as fast as you can five times.
6,8	A-Bob	Read, read, read, read, read five Indian books.

1	T-Clinician	How did Bob do, Helen?
3,8	B-Helen	He was good and he was silly
2	T-Clinician	Let's hear Fred say "rabbit" as fast as he can for five times.
6,7	C-Fred	Rabbit, rabbit, rabbit, wabbit, wabbit.
4	A-Bob	He got off wrong.
8	B-Helen	I've got to get back there (to class).
1	T-Clinician	Well, let's listen a little more to one another before we all go.
6	C-Fred	(More slowly). Rabbit, rabbit, rabbit, rabbit, rabbit.
3	A-Bob	That's good.
1	T-Clinician	Helen, what do you think? (No response).
8	A-Bob	Helen is just like the Indians.

5	T-Clinician	You and all your talk about the Indians. Who do you think you are, General Custer?

Scoring Practice

The group ten category scoring form is scored differently than the individual scoring form. The ten categories comprise the ten rows of the form. Whenever one of the four group participants (T, A, B, C) performs a category, his alphabet name is marked beside the appropriate category in the column for that event. Events move sequentially from left to right on the form. In the transcript above the first event was a category #1 by T (clinician); the second event was a #6 by A (Bob); etc. If two or more events happen at the same time (simultaneously) each event is marked in the same column. Follow the sample transcript above and see how it was scored on the group scoring form on the following page.

Each event in the therapy session is scored sequentially from left to right. The clinician performed the first event and a T is placed in the first column in the category #1 row (Explain); the second event of the session is per-

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTA
1 Explain	T			T					T				T		T		C											T			T					T= C-
2 Model										T										C	T				T											T= C-
3 Good			T					T				T																							T	T=
4 Bad																C			C					T									C			T= C=
5 Social																																				0
6 Correct		A					A				B															C								C		A=2 B=1 C=
7 Incorrect					A									B				B				B														A=1 B=3
8 Social																											A		A	B	A					A= B=
9 Good Self																																				0
0 Bad Self						A																	B													A=1 B=
1 Explain	T								T								T			T																T=
2 Model			T			T						T																								T=3
3 Good										B									A																	A=1 B=1
4 Bad															A																					A=1
5 Social																						T														T=1
6 Correct		C		B			A						C					C																		A=1 B=1 C=
7 Incorrect														C																						C=1
8 Social								A			B					B					A															A=2 B=
9 Good Self					B																															B=
																																				0

formed by A as category #6 (Correct); the next column, the third event, is a #3 (Good) performed by T (Clinician); the fourth column or event is by T and is a #1 (Explain); etc. You will note that in the above narrative there was only one place where the clinician (T) and Bob (A) spoke both at the same time; such simultaneous behaviors are listed in the same column. In this scoring example, we have placed an asterisk (*) above the column which illustrates two simultaneous events. The totals for each group member are made in the right column of the form for each of the ten categories. The information obtained on the scoring form is then transferred to the Group Session Scoring Form.

Practice scoring the sample transcript again. This time mask out our category assignments in the left column and score the events as they occur directly on the group scoring form on the following page.

Sample Scoring Transcripts

Before we go on and present other procedures relative to the scoring of group therapy, let us practice once again the category scoring of some sample group therapy transcripts. For each of the two samples described below, see if you can find the correct category for each event, marking the transcript in the left hand column

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				

space:

Sample Group Therapy Transcript A

Clinician	(T)
David	(A), Down's syndrome child
Cindy	(B), Down's syndrome child
Yo Yo	(C), Cerebral palsied child, mild mental retardation

Categories	By Whom	Dialogue
______	T	(Holding up a picture). What is this? What do you see?
______	A	(Incorrectly answers). Gum.
______	T	David, that's not gum.
______	A	I o. (I know).
______	T	Cindy, you tell him, "I know."
______	B	I know.
______	A	I know.
______	T	(The clinician gives A and B a token).
______		O.K., Cindy, it's your turn. Pick out a picture that you like. Something to eat and we'll guess what it is.

______	B	(Selects picture). This is ice cream. (Wrong).
______	T	Cindy, that's not right.
______	A	I know, I know. I think it's gum. (Correct).
______	T	Give two tokens to David (Gives him two tokens).
______	C	I want one.
______	B	(Simultaneously with C). Give me one.
______	T	No, you two guys didn't guess. Now you can have a turn. (Holds up picture). O.K., what do you think? Do you think it's______?
______	B	Candy.
______	T	(Gives B one token). Right. I think it is______.
______	B	I think it is candy.
______	T	(Gives B two tokens). Yo Yo, what do you think it is. I think it is ______.
______	C	Cah--eee. (Incorrect).

______	T	You can do better than that.
______	C	(Grimaces a look of self-disapproval). Can---eee. (Incorrect, but acceptable for his capability).
______	T	(Gives Yo Yo one token). I think it is candy.
______	C	I in it can--eee. (Laughing).
______	T	(Gives him two tokens). Yo Yo, pick out a picture of a food that you like. Let us guess what it is.
______	C	(Reaches and picks picture of hamburger). I pick handugah. (Incorrect).
______	T	Cindy, tell Yo Yo how to say it. I think it's _________.
______	B	I think it is hamburger.
______	T	(Gives two tokens to B).
______	C	Me, handugah. Mine. (Reaches for tokens). Me, handugah.
______	T	(Holds tokens back from C). No, no, Yo Yo. You didn't say, "hamburger."

Sample Group Therapy Transcript B

Clinician (T)
Johnny (A), working on f/th substitution
Susie (B), working on f/th substitution
Richard (C), working on t/k substitution

Categories	By Whom	Dialogue
_____	T	I'm going to show you a card with a picture on it. You tell me what it is, Johnny? (Shows picture of a thumb).
_____	A	Fum.
_____	T	Susie, was that good?
_____	B	N oooooooooo!
_____	T	Good, Susie. O.K., Johnny, try it again. Do it this way. (Makes an exaggerated tongue protrusion). THumb.
_____	A	Fum.
_____	T	Richard, what do you think? Did that sound right to you?
_____	C	No. It's thumb.
_____	T	That's right, Richard. Now,

Johnny, look in the mirror and do it this way. THumb.

______ A Thumb.

______ T Very good, Johnny. That's the way to do it. Remember, when you say the TH (makes pronounced tongue protrusion) that you put your tongue between your teeth. THumb. O.K., it's Richard's turn. Richard, tell me what this picture is. (Holds up picture of a kite).

______ C K---tite.

______ T That's pretty close, Richard. Try it again.

______ C KKKKKKK---tite. (Prolongs the k).

______ T How did you think that sounded, Richard?

______ B It sounded very wrong.

______ T Susie, it is Richard's turn to answer. Richard?

______ C (Looking at Susie). Well, I guess it wasn't very dood.

		(Demonstrates a d/g substitution).
______	T	Let's try it this way. K----ite.
______	C	K-ite.
______	T	How was that?
______	C	That was o-tay.
______	T	That was o-Kay.
______	C	That was o-Tay.
______	B	(B laughs at C). It's o-Tay.
______	T	Say o-Kay, Richard.
______	C	O-Kay.
______	T	That's fine, Richard. Now it's Susie's turn. What's this a picture of, Susie? (Shows bathtub).
______	B	That's a baTH-tub.
______	T	(Winks eye at B). Johnny, did that sound correct to you?
______	A	Yes.
______	T	That's right, Johnny. Susie said baTHtub. That was very well done, Susie. Johnny, can you say that word like Susie can?
______	A	BaTHtub.

______ T How did that sound to you, Richard?

______ C Johnny can say it better than she can.

______ B BaTHtub, baTHtub, baTHtub.

______ T There Susie said it well, didn't she?

______ C She just said it, that's all.

______ T Well, let's hear you say the word for this. (Shows picture of man baking a ham).

______ C Ha-m.

______ T Let us say, "The man is baking the ham."

______ B (Simultaneously with T above). I know what the word is.

______ C The man is bating the ham.

______ B (Laughs). I never heard of "bating."

______ T Susie, why do you always like to laugh at other people's mistakes?

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

Data Analysis

Our purpose in using videotape or audiotape playback of a segment of group therapy is so that we might know what is "going on" in the therapy session. An observer might, also, use the group therapy scoring method "live", scoring by direct observation. The data obtained in the Group Scoring Form is then transferred to the Group Session Scoring Form.

On the Group Scoring Form we summarize the category counts for each group participant, including the clinician (T). On the scoring form sample, we see that there was a total of 57 events: 23 by T; 12 by A; 11 by B; and 11 by C. The percentages of behavioral categories is computed at the very right margin. In this example we see that 21 percent of the session was devoted to explanations (with all but one explanation furnished by the clinician). The therapy sequences required for determining the various ratios are listed in the middle of the left of the Group Session Scoring Form. The amount of clinician participation is recorded here; in this segment, we see the clinician participated in about 40% of the session. On the middle right of the Scoring Form we see that therapy ratios

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN: Jane P.
DATE: Oct. 11, 1971

SUMMARIZATION TABLE

Category	T	A	B	C	D	E	F
1	11			1			
2	6			1			
3	4	1	1				
4	1	1		3			
5	1						
6		3	2	5			
7		1	3	1			
8		5	3				
9			1				
10		1	1				
Totals	23	12	11	11			

Total % of Session

12	.21
7	.12
6	.11
5	.09
1	.02
10	.17
5	.09
8	.14
1	.02
2	.03
57	

Therapy Sequences

	A	B	C	D	E	F	T
6/9		1					
7/10	1	1					
5/8	5	3					1

Clinician % of Session= 40%

Therapy Rating

A B C D E F

Correct Response $\frac{6}{6,7}$ = .75 .40 .83 - -

Incorrect Response $\frac{7}{6,7}$ = .25 .60 .17 - -

Socialization Total = - .16 - - - -

Good Self Eval. $\frac{6/9}{6}$ = - .50 - - - -

Bad Self Eval. $\frac{7/10}{7}$ = 1. .33 - - - -

Group Leader $\frac{1,2,3,4}{\text{Total}}$ = .03 .01 .09 - - -

GROUP EFFECTIVENESS RATINGS:

Bad ... Good

Group Effectiveness for A 1 2 3 4 5 [✓ 6] 7
B 1 2 3 [✓ 4] 5 6 7
C 1 2 3 4 5 6 [✓ 7]
D 1 2 3 4 5 6 7
E 1 2 3 4 5 6 7
F 1 2 3 4 5 6 7

Clinician Rating of Session 1 2 3 4 5 [✓ 6] 7

Comments: FRED DOMINATES THE GROUP. HELEN IS BEHIND IN PRODUCTION TASKS.

are computed for each child member of the group; for example, we see that child A was correct 75% of the time and wrong 25% of the time; child B demonstrated only a 40% success rate; child C had the highest correct response ratio, meaning that he made a correct response when asked 83% of the time. The total time of the session spent in socialization (5 and 8) was only 16%, considerably lower than what is commonly observed. Child C was in charge of the group with his instructions, models and bad evaluatives about nine percent of the therapy time; the other children were much lower than this. At the bottom of the Group Session Scoring Form, the clinician has rated her session. We see that she rates child A as a six on a seven point rating scale relative to session effectiveness for that child; child B was a four; child C was a seven. Her overall pleasure with the session was rated as a six. Her comments, "Fred dominates group. Helen is behind in production tasks" are clearly substantiated by her scoring data.

Clinician Tabulation Sheet for Group Therapy

The data obtained from the Group Session Scoring Form could be tabulated over time by adding it cumulatively to the Clinician Tabulation Sheet. Typical use of such tabulation is shown on the sample sheet on the following page. While the Clinician Tabulation Sheet for Group Therapy has space for only four consecutive scoring sessions, these kind of data can be kept on a group, obviously, for a much longer time. Clear patterns of behavior emerge for the group over time. For example, if the above session which identified that child B (Helen) had only a 40% success rate in therapy was typical of Helen's success in other group sessions, we might conclude that this present group was too difficult for her. The advantage of the Tabulation Sheet is that it provides us data about our group over time. This will permit us to see the typical category responses of the clinician as well as each individual child.

Utilization and Implications of the Group Ten Category System

The advantage of scoring group speech and hearing therapy sessions is that it will provide the clinician or supervisor with much information about the group. For example, it will tell us about the relative participation in the group activities by the clinician and all the members of the group. By reviewing the Group Session Scoring Form, we can determine how each member participated, cate-

CLINICIAN TABULATION SHEET
FOR GROUP THERAPY

CLINICIAN:
GROUP

Category	Week:							Week:							Week:							Week:						
	T	A	B	C	D	E	F	T	A	B	C	D	E	F	T	A	B	C	D	E	F	T	A	B	C	D	E	F
1	11			1																								
2	6			1																								
3	4	1	1																									
4	1	1		3																								
5	1																											
6		3	2	5																								
7		1	3	1																								
8		5	3																									
9			1																									
10		1	1																									
Correct		.75	.40	.83																								
Incorrect		.25	.60	.17																								
Social					.16																							
Good Self			.50																									
Bad Self		1.0	.33																									
Group Leader	.40	.03	.01	.09																								
Effect		6	4	7																								
Clinician	6																											

Comments:

gory by category. The correct and incorrect response ratios for each group member gives some index of the appropriateness (degree of difficulty, of interest) of the group activity. Determination of how much of the group activity was spent in socialization. Self evaluation ratios give information relative to how each group member judges his own success or lack of success. Group leader ratios identify those members who participate the most, the least, etc. The group effectiveness ratings enable the clinician to make judgments specific to the group's effectiveness for each member of the group, as well as to make a determination of relative overall group effectiveness.

If group scoring is done over time, such as scoring a group once weekly for a period of a school semester, the clinician can clearly see behavior patterns for the group. This information might tell us, for example, that child B consistently does not seem to respond like the other group members. The clinician then might make the judgment whether to regroup child B in another group, or she may change the group activity to alter his performance, or she may decide that child B's "difference" is highly therapeutic and desirable for that child. Long term recording of group data on the Clinician Tabulation Sheet for Group Therapy would enable the clinician to identify particular typical response patterns for certain children; that is, if on one particular day the child's responses are quite dissimilar to his usual weekly performance, the atypical day could be studied for those factors which produced the poorer performance, be ignored or minimized, etc. Once again, the scorer should remember that group scoring only provides the measurements. What the measurements mean is up to the clinician.

There is one final gain from group scoring, not related to client performance. The scoring of one's group therapy seems to stimulate the clinician to become aware of his effects and the interactions of the group members, and to become aware of how each group member is performing. The scoring of group therapy, similar to the scoring of individual sessions, helps us become critical evaluators of the total therapy process, our own or someone else's.

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

GROUP TEN CATEGORY SCORING FORM

CATEGORIES																																				TOTAL
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				
1 Explain																																				
2 Model																																				
3 Good																																				
4 Bad																																				
5 Social																																				
6 Correct																																				
7 Incorrect																																				
8 Social																																				
9 Good Self																																				
10 Bad Self																																				

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	Group Members						
	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session

Totals

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Group Members

Total % of Session

Totals

Therapy Sequences

	A	B	C	D	E	F	T
6/9							
7/10							
5/8							

Clinician % of Session=

Therapy Rating

A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Group Members

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session

Totals

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$=

Group Leader $\frac{1,2,3,4}{\text{Total}}$=

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	Group Members T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session	

Totals

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Group Members

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
Totals							

Total % of Session

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$=

Group Leader $\frac{1,2,3,4}{\text{Total}}$=

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	Group Members T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session	

Totals   Therapy Sequences
A B C D E F   T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

Practice Group Session Scoring Forms

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	Group Members						
	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session

Totals

Therapy Sequences	A	B	C	D	E	F	T
6/9							
7/10							
5/8							

Clinician % of Session=

Therapy Rating

	A	B	C	D	E	F
Correct Response $\frac{6}{6,7}$ =						
Incorrect Response $\frac{7}{6,7}$ =						
Socialization Total =						
Good Self Eval. $\frac{6/9}{6}$ =						
Bad Self Eval. $\frac{7/10}{7}$ =						
Group Leader $\frac{1,2,3,4}{\text{Total}}$ =						

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Group Members

Total % of Session

Totals

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Group Members

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total % of Session

Totals

Therapy Sequences

	A	B	C	D	E	F	T
6/9							
7/10							
5/8							

Clinician % of Session=

Therapy Rating

		A	B	C	D	E	F
Correct Response	$\frac{6}{6,7}$ =						
Incorrect Response	$\frac{7}{6,7}$ =						
Socialization Total	=						
Good Self Eval.	$\frac{6/9}{6}$ =						
Bad Self Eval.	$\frac{7/10}{7}$ =						
Group Leader	$\frac{1,2,3,4}{\text{Total}}$ =						

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

GROUP SESSION
SCORING FORM

CLINICIAN:
DATE:

SUMMARIZATION TABLE

Category	T	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Group Members

Total % of Session

Totals

Therapy Sequences
A B C D E F T

6/9
7/10
5/8

Clinician % of Session=

Therapy Rating
A B C D E F

Correct Response $\frac{6}{6,7}$ =

Incorrect Response $\frac{7}{6,7}$ =

Socialization Total =

Good Self Eval. $\frac{6/9}{6}$ =

Bad Self Eval. $\frac{7/10}{7}$ =

Group Leader $\frac{1,2,3,4}{\text{Total}}$ =

GROUP EFFECTIVENESS RATINGS:

		Bad						Good
Group Effectiveness for	A	1	2	3	4	5	6	7
	B	1	2	3	4	5	6	7
	C	1	2	3	4	5	6	7
	D	1	2	3	4	5	6	7
	E	1	2	3	4	5	6	7
	F	1	2	3	4	5	6	7
Clinician Rating of Session		1	2	3	4	5	6	7

Comments:

NINETEEN CATEGORY SCORING SYSTEM

Individual Therapy

Purpose of Category System

The nineteen category system is designed for studying an individual speech and hearing therapy session. It is particularly useful for students studying the clinical process in therapy, enabling the student to specify the content and sequence of events within the session. While the nineteen category system is based on the same type of categorization as the ten category method of analysis, the larger system permits the specification of modality of model (spoken or written word) and whether responses and stimuli were verbal or nonverbal. The nineteen category system has been found applicable for scoring all kinds of individual therapy sessions (clients with problems of articulation, hearing, language, voice, and stuttering). Once the student has learned to score the ten category system, he can usually learn the nineteen category system easily. The obvious advantage of the nineteen category system is that it provides the scorer more information than does the ten category system.

Procedures for Using Nineteen Category System

The nineteen category system has only been used under single confrontation conditions. The clinician records himself on either audio or videotape. He then selects randomly (or wherever he chooses) a five minute segment for scoring. Or the student studying various therapy procedures may be provided a taped segment by his instructor. Perhaps he scores a tape of a master clinician or of his supervisor (the supervisor may be the master clinician). Certain segments of the tape may be scored or the tape may be allowed to run in its entirety. The separate steps for using the nineteen category system are listed below, specified for the individual clinician desirous of scoring himself:

1. The clinician records, using either audiotape or videotape, most of the therapy session.
2. Five minutes are selected from the total session.
3. The five minute segment is played back without stopping. It is then rewound and played back again. This second time it is scored.
4. The clinician scores the playback using the nineteen category system, stopping whenever required.

Scoring of a typical five minute therapy segment takes a total of about seven to eight minutes.

5. Segment scores are then totaled and summarized on the Session Scoring Form and the various session ratios are computed and recorded on the form. Average length of time for determining and recording the data on the Session Scoring Form is about seven to eight minutes.
6. Similar to the ten category system, total scoring time is about twenty minutes (five minute playback, seven or eight minutes scoring the second playback, and seven or eight minutes or summary scoring).

Nineteen Category Descriptions

Category 1	Explain, Describe	Clinician describes and explains the specific goals or procedures of the session.
Category 2	Auditory Model	Clinician elicits client behavior by providing instruction or a direct auditory

		model.
Category 3	Visual Model	Clinician elicits client behavior by providing instruction or a direct visual model.
Category 4	Auditory-Visual Model	Clinician elicits client behavior by providing instruction or a combined auditory and visual model.
Category 5	Good Evaluative, Tangible	Clinician evaluates client responses and indicates approval by awarding a tangible item.
Category 6	Good Evaluative, Social-Verbal	Clinician evaluates client response and verbalizes approval.
Category 7	Good Evaluative, Social-Nonverbal	Clinician evaluates client response and indicates nonverbal

		approval.
Category 8	No Evaluation	Clinician makes no observable approval or disapproval.
Category 9	Bad Evaluative, Tangible	Clinician evaluates response and indicates disapproval by providing tangible disapproval.
Category 10	Bad Evaluative, Social-Verbal	Clinician evaluates client responses and verbalizes his disapproval.
Category 11	Bad Evaluative, Social-Nonverbal	Clinician evaluates client response and provides his nonverbal disapproval.
Category 12	Neutral-Social	Clinician engages in behavior which is not therapy goal oriented.
Category 13	Correct Response	Client makes a res-

		ponse which is correct for clinician instruction or model.
Category 14	Incorrect Response, Approximation	Client makes a response which is an approximation of a correct response for clinician instruction or model.
Category 15	Incorrect Response	Client makes incorrect response to clinician instruction or model.
Category 16	Inappropriate-Social	Client makes response which is not appropriate for session goals.
Category 17	Good Self-Evaluative	Client indicates awareness of his own correct response.
Category 18	Bad Self-Evaluative	Client indicates awareness of his own incorrect response.
Category 19	No Response	Client does not respond, either ver-

bally or nonverbally, to clinician instruction or model.

Sample Transcript Using the Nineteen Categories

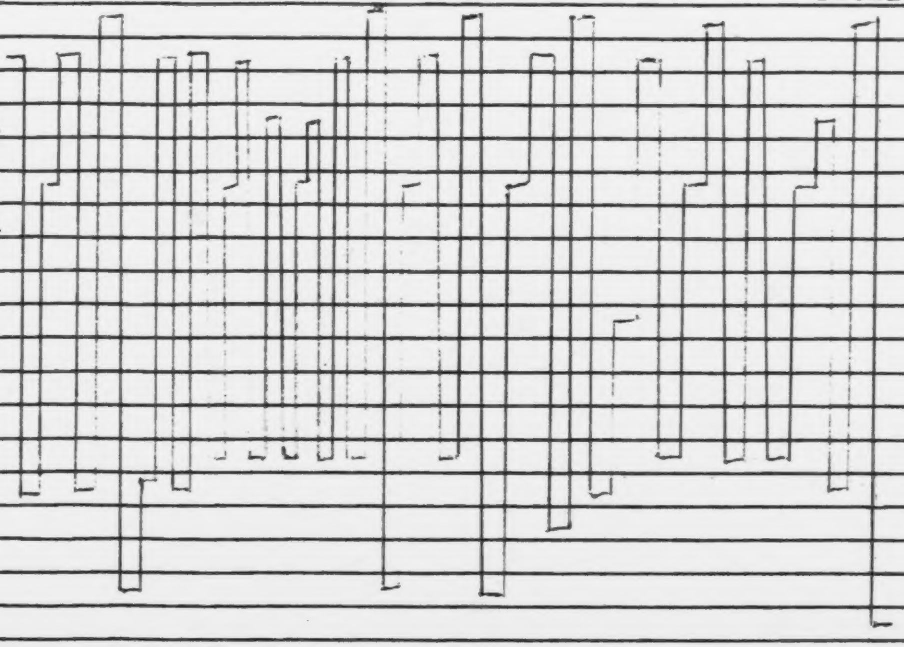
Category #	Speaker	Dialogue
2	Clinician:	Letter gun.
14	Chip:	Litter gun.
6,2	Clinician:	Good; again.
14	Chip:	Litter gun. Spider gun.
1	Clinician:	How's that?
17,14	Chip:	Good. Suckas gun.
2	Clinician:	Say that again.
14	Chip:	Suckas gun.
2	Clinician:	Circus gun.
13	Chip:	Circus gun.
6,2	Clinician:	Great. Say it again, two or three times.
13	Chip:	Circus gun. Circus gun. Circus gun.
4	Clinician:	(Flips to next picture couplet). Say this. pear gun.

13	Chip:	Pear gun.
6,4	Clinician:	O.K., turn the page. Car moon.
13	Chip:	Car moon.
2	Clinician:	Again.
13	Chip:	Car moon.
1	Clinician:	How was it?
17	Chip:	Good.
6,2	Clinician:	Pretty good; turn the page again.
13	Chip:	Car knife.
1	Clinician:	How was that?
17	Chip:	Good.
6,2	Clinician:	Perfect. Put five fingers down.
15	Chip:	Car gun (incorrect).
1	Clinician:	Think.
14	Chip:	Car knife, car knife, car knife, car knife, car knife (slightly wrong).
10,2	Clinician:	No, try it again.
13	Chip:	Car knife, car knife.

6,1	Clinician:	Good for you. Do you think you can put all my fingers up on that one?
13	Chip:	Spider knife, spider knife, spider knife, spider knife, spider knife.
2	Clinician:	Try it again.
13	Chip:	Spider knife.
6,4	Clinician:	Fine. O.K., turn the page.
14	Chip:	Car Fork (faulty).
1	Clinician:	How was it?
18	Chip:	Not so good.

Scoring Practice

The therapy dialogue above has been scored using the nineteen category scoring form below:



Categories	Total
1. Explain	6
2. Auditory Model	10
3. Visual Model	0
4. Aud.-Vis. Model	3
5. Good, Tangible	0
6. Good, Verbal	7
7. Good, Nonverbal	0
8. No Eval	0
9. Bad, Tangible	0
10. Bad, Verbal	1
11. Bad, Nonverbal	0
12. Social	0
13. Correct	9
14. Approximation	6
15. Incorrect	1
16. Social	0
17. Good Self	3
18. Bad Self	1
19. No Response	0

As was first noted in using the ten category system, the continuous line from one category to another aids in scoring the nineteen category system more accurately and quickly. Putting a dot or a X in each category row has been found to be a slower way of scoring. The continuous line helps you know "where you are" on the scoring form.

Count the frequency of each category event by counting the number of times a category occurred. These summarized counts are then written on the right margin of the scoring sheet. Eventually, these totals will be summarized on the Session Scoring Form (page 124). Go over the preceding transcript again and see if you can mark the scoring form below to match our scoring form above. Mask out our scoring model while you attempt to score the nineteen category system by yourself.

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

If you scored the practice session correctly, you may already know the basic categorizations of the nineteen category system. If your scores do not agree with ours, practice the scoring again on a Practice Scoring Form.

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

While the nineteen category system follows the same general scoring categorizations of the ten category system, it is a little more difficult to use. With practice, however, we have found that scorer reliability is about the same using either the ten or nineteen system. Whenever the scorer is in doubt specific to a particular category, he should make the arbitrary decision to place the behavior wherever he thinks it most belongs. An occasional error in categorization is to be expected. Furthermore, there is no absolute in categorizing. The nineteen category system is particularly useful for studying the therapy of someone else and you may never know for sure what the clinician's intentions were. You only classify what you see or hear. Classify the behavior as it appears to you. You will have enough data for a five minute segment of therapy that an occasional error in classifying will not seriously alter the overall session scoring.

Included below are two more sample transcripts. The first transcript has been scored; mask out these categorizations and practice your own scoring. The second transcript has not been scored and is provided for your own practice.

Sample Scoring Transcript #1

Category	Speaker	Dialogue
1	Clinician:	That's a special one to start out the game with and a special one to end the game. O.K. Now!
16	Client:	How come we can't see the special one?
1	Clinician:	Cuz it's going to be a surprise.
16	Client:	O.K.
1	Clinician:	You don't know the game rules yet.
16	Client:	Oh.

2 Clinician: What does a snake sound like? Sssss.

13 Client: Sssss.

6 Clinician: Sssss, snake, that's right!

13 Client: Ssss.

6,1 Clinician: Ssss Snake, O.K. I want you to keep your teeth closed and feel where your tongue is. Move it back further.....back in your mouth real far.

13 Client: ShSh.

1,4 Clinician: Just pull it across the top of your mouth (model) and go like this (model); keep your teeth together.

13 Client: Ssss.

2 Clinician: Ssss snake.

13 Client: Ssss snake.

1,4 Clinician: O.K. (unintelligible but sounded like....a new sound) O.K. Look at me, I'll keep my teeth together and hold my tongue way back on the top of my mouth and go....Sh.

14 Client: Sh (slightly wrong).

10,1,2 Clinician: No, put it back. Shout, shout.

14 Client: Sh-nout, sh-out.

6,2 Clinician: There! Go like this. Sh

13 Client: Shout.

6 Clinician: O.K.

13 Client: Shout (loud)

1 Clinician: Did you say it right?

17 Client: Yeah.

10,1,2 Clinician: No! You go like this. Shout, shout.

13 Client: Shout.

6 Clinician: All right.

13 Client: Shout.

1 Clinician: Could you do that again?

16 Client: No!

1,4 Clinician: Let's see! Remember, look, sh.

13 Client: Shout.

1 Clinician: Let's listen. (turns on loop recorder.

2	Recorder:	Shout.
2	Clinician:	You try it again.
14	Client:	Sh. (distorted)
10	Clinician:	No.
2	Recorder:	Shout.
2	Clinician:	Now you try it.
14	Client:	Shout. (distorted)
1	Clinician:	Did you say it right?
18	Client:	No.
1	Clinician:	You didn't? Listen again.
2	Recorder:	Shout.
2	Clinician:	Sh.
13	Client:	Shout. (Correct)
1	Clinician:	Listen.
2	Recorder:	Shout.

Sample Scoring Transcript #2

Category	Speaker	Dialogue
	Clinician:	When you use a slightly higher pitch your voice sounds better.
	Client:	I can't think about my voice when I'm trying to talk to people.
	Clinician:	With a little practice using a

slightly higher pitch your voice will sound better to you.

____ Client: If it isn't me, I can't use it no matter how good it sounds.

____ Clinician: Now, remember, your voice doesn't sound that bad to anyone. You are only trying to use it in a way that won't take so much effort.

____ Client: Yes, I know that.

____ Clinician: There are several things we can do to help us remember to use a slightly higher pitch.

____ Takes out paper and draws a large upward pointing arrow.)

____ See that. That points up, doesn't it?

____ Client: (nods in agreement)

____ Clinician: Now if we had an arrow like this every place you are, it might just help you to remember to keep your pitch up. Where could we put something like a little card with an arrow on it to serve as a reminder?

____ Client: I could use a reminder just about every place.

____ Clinician: Well, where could we put these reminders?

____ Client: I could put one on my notebook and one on my mirror at home (using a higher pitch). That sounds pretty good, doesn't it?

____ Clinician: Your voice is absolutely clear at the higher pitch.

____ Client: (Using a falsetto) Maybe I ought to talk like this and let people wonder what ever happened to the old me.

____ Clinician: No, never bother talking like that. Just use your regular voice but at a slightly higher pitch.

____ Client: (Using a slightly higher pitch) Does this sound the way that it ought to be?

____ Clinician: Right. Just keeping the voice a little higher is all you have to remember. Now, about those reminder arrows. Do you know what I want you to do?

____ Client: Put arrows around to remind me to keep my voice up?

____ Clinician: I'd get some three by five cards. Draw an arrow on them. Then fix the card on something so that the arrow is pointing up. Every time you then see the arrow, it will remind you to keep up your pitch level.

____ Client: I'd just draw an arrow like this. (He draws an arrow on the paper). Like this?

____ Clinician: Yes, just about that size on a small card.

____ Client: Where shall I put them?

____ Clinician: Put about five cards around wherever you seem to be the most. Can you think of five places?

____ Client: Well, on the notebook for starters. Then on my mirror in my room. Should I put one on my bike?

____ Clinician: That might not be a bad place and----.

____ Client: (Interrupting) I can put one on my desk and maybe one in the kitchen.

____ Clinician: You're using a lower pitch again and your voice gets hoarse.

____ Client: I sound bad whenever I get too low. I could put one in my dad's car.

____ Clinician: You decide where you want to put the arrows. The best places are places where you do a lot of talking.

____ Client: Your voice sounds hoarse when you get in a low pitch, too.

____ Clinician: At least, I know better. Maybe

I better get some arrows out for me too.

____ Client: Are you going to be here next week?

Practice using the nineteen category system with other therapy observations. Additional Nineteen Category Scoring Forms may be found on page 131.

Data Analyses

The nineteen category system permits the detailed dissection of speech and hearing therapy. We almost never use the nineteen category system "live". The complexities of the scoring require us to stop frequently the audio or videotape. The individual scoring forms are summarized and the data is transferred to the Nineteen Category Speech and Hearing Therapy Session Scoring Form, following the same procedures outlined for both the ten category system, individual and group.

The data on the Nineteen Category Speech and Hearing Therapy Session Scoring Form is taken from the practice transcript for the client named Chip, pp. 109. The summary data (the frequency of occurrence for each of the nineteen categories) is summarized on the right hand margin of the

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician: Mary
Client: CHIP
Date: 8-27-71

Category Counts

Category	# of Events	% of Total
1	6	13
2	10	21
3	0	0
4	3	06
5	0	0
6	7	15
7	0	0
8	0	0
9	0	0
10	1	02
11	0	0
12	0	0
Clinician Total	27	57

Category Counts

Category	# of Events	% of Total
13	9	20
14	6	13
15	1	02
16	0	0
17	3	06
18	1	02
19	0	0
Client Total	20	43

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	4
14/(5,6,or 7)	1
15/(9,10,11)	0
16/(1,2,3,or 4)	0

Ratio Scoring

Correct Response $\frac{13}{13,14,15} = \frac{9}{16}$ = .5

Approximation $\frac{14}{13,14,15} = \frac{6}{16}$ = .3

Incorrect Response $\frac{15}{13,14,15} = \frac{1}{16}$ = .0

Good Eval $\frac{13,14/5,6,7}{13,14} = \frac{5}{15}$ = .3

Bad Eval $\frac{15/9,10,11}{15} = \frac{0}{1}$ = .0

Inappropriate $\frac{16,19}{13,14,15,16,19}$ =

Direct Control $\frac{16/(1,2,3,or\ 4)}{16} = \frac{0}{0}$ = .0

Socialization $\frac{12,16}{Total} = \frac{0}{47}$ = .0

Therapy Evaluation

	No		Yes
A Good Session	1--2--3--4--5--6--[✓ 7]--8--9		
Therapist Effective	1--2--3--4--5--6--7--[✓ 8]--9		
Client Effective	1--2--3--4--5--6--[✓ 7]--8--9		
Client Effectiveness Measures	____________ = ____________		

COMMENTS: All work, no play.

Scoring Form. These summary data are then totaled under the Category Counts Column. We see, for example, that category 1, Explain, occurred six times in the total segment; category 2, Auditory Model, occurred ten times; category 13 occurred nine times; category 14, six times; category 19, zero or not at all. A total of 47 categories occurred, 27 by the clinician and 20 by the client. The Sequence Counts column will summarize particular sequences of events which will be utilized in the computation of various therapy ratios; for example, category 13, Correct Response, and category 14, Approximation, were followed five times by Good Evaluative Categories 5, 6, and 7; this means that the total of 15 correct responses (categories 13 and 14) were followed by five good evaluatives for 33% of the time.

The ratios under the Ratio Scoring Column are computed by counting a specific behavior and dividing that behavior by a summary of several behaviors. For example, the first ratio shown is Correct Response. We find that a total of nine Correct Responses (category 13) occurred; this figure of nine is then divided by the total number of responses (categories 13, 14, 15); since there was a total of 16 responses we divide the nine by 16 and find that 56% of the client's responses are correct. The other ratios are determined similarly as shown on the Session Scoring Form.

The individual clinician and/or his supervisor might want to keep track of the therapy events and ratios over time. If such continuous record is desired, the Clinician Tabulation Sheet is useful, permitting the continuous scoring of up to 16 successive session summaries. Similar to the Clinician Tabulation Sheet used for both the ten category systems is the Nineteen Category Clinician Tabulation Sheet.

Utilization and Implications

We might comment a moment on the Session Scoring Form which summarizes the therapy with Chip. Here we find that the clinician performs 57% of the time and the client 43%; this kind of percentage breakdown frequently typifies "good" therapy sessions. The client performed correctly 56% of the time but also had 38% near approximations; this particular clinician during this segment of therapy was accepting approximations most of the time as correct. Perhaps approximations should not have been accepted by the clinician as correct since the boy was already enjoying

NINETEEN CATEGORY CLINICIAN EVALUATION SHEET

Session #_______

	#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Percentage of Categories	1	13																			
	2	21																			
	3	0																			
	4	06																			
	5	0																			
	6	15																			
	7	0																			
	8	0																			
	9	0																			
	10	02																			
	11	0																			
	12	0																			
	13	20																			
	14	13																			
	15	02																			
	16	0																			
	17	06																			
	18	02																			
	19	0																			
% of Total Events by Clinician		2.7																			
% of Total Events by Client		2.0																			
Correct Response Ratio		56																			
Approximation Ratio		38																			
Incorrect Response Ratio		06																			
Good Evaluation Ratio		33																			
Bad Evaluation Ratio		0																			
Inappropriate Ratio		0																			
Direct Control Ratio		0																			
Socialization Ratio		0																			
Session Quality Rating		7																			
Therapist Effectiveness		8																			
Client Progress		7																			

a relatively good success rate in his therapy. With the correct responses and approximation responses all judged as correct, the boy was correct 94% of the time. Our project data* (See Office of Education annual reports as listed in Bibliography) suggest that effective therapy seems to allow total correct response somewhere between 60 and 80 per cent. However, perhaps for this therapy segment, the boy needed a high level of success. Remember, the ratio figures obtained only give us data. We must make the judgments whether a particular ratio level is desirable or undesirable.

The clinician's comment on the therapy session was, "All work, no play." The complete absence of socialization and neutral responses yielding zero ratios in these areas well substantiate the clinician's statement. Whether this is desirable, however, would be the judgment of the clinician, his supervisor, or the students and instructor studying the therapy segment. At the bottom of the form we also note that the clinician rates various dimensions of therapy effectiveness. Some objective measures (such as counting the correct number of responses for a pre-determined number of test stimuli) are added as quantitative data characterizing the particular session.

When the Session Scoring Form is completed, the events of therapy have been categorized and the clinician's impressions and effectiveness measures have been recorded. The Session Scoring Form is analyzed in any way the scorer wishes to use it. He might be interested in the relative frequency of clinician events compared with client events. Or he may be particularly interested in particular sequences of events within the therapy session.

The nineteen category system provides detailed data regarding both the kind of events and the sequence of events which may be in speech and hearing therapy. The ten category system (individual therapy) probably provides the clinician who did the therapy and his supervisors all they need for either self or external supervision. For the student of therapy, however, the nineteen category system provides more detailed information relative to the kind of stimuli presented and the kind of reinforcement used. We have found the nineteen category system useful in advanced seminars looking at the clinical process in speech and hearing therapy. The nineteen category system has been used in connection with timing the events of therapy and in relating its use to different kinds of problems such as language, hearing, articulation, voice, stuttering, etc. (See Prescott, 1970 in Bibliography). Like the ten category systems, the scorer should remember the nineteen category system is only like a ruler. It measures the events of therapy. What the measurements may mean will be up to the scorer.

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories Total

1. Explain
2. Auditory Model
3. Visual Model
4. Aud.-Vis. Model
5. Good, Tangible
6. Good, Verbal
7. Good, Nonverbal
8. No Eval
9. Bad, Tangible
10. Bad, Verbal
11. Bad, Nonverbal
12. Social

13. Correct
14. Approximation
15. Incorrect
16. Social
17. Good Self
18. Bad Self
19. No Response

NINETEEN CATEGORY SCORING FORM

Categories Total

1. Explain
2. Auditory Model
3. Visual Model
4. Aud.-Vis. Model
5. Good, Tangible
6. Good, Verbal
7. Good, Nonverbal
8. No Eval
9. Bad, Tangible
10. Bad, Verbal
11. Bad, Nonverbal
12. Social

13. Correct
14. Approximation
15. Incorrect
16. Social
17. Good Self
18. Bad Self
19. No Response

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SCORING FORM

Categories	Total
1. Explain	
2. Auditory Model	
3. Visual Model	
4. Aud.-Vis. Model	
5. Good, Tangible	
6. Good, Verbal	
7. Good, Nonverbal	
8. No Eval	
9. Bad, Tangible	
10. Bad, Verbal	
11. Bad, Nonverbal	
12. Social	
13. Correct	
14. Approximation	
15. Incorrect	
16. Social	
17. Good Self	
18. Bad Self	
19. No Response	

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
11	______	______
12	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
13	______	______
14	______	______
15	______	______
16	______	______
17	______	______
18	______	______
19	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	______
14/(5,6,or 7)	______
15/(9,10,11)	______
16/(1,2,3,or 4)	______

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ______

Approximation $\frac{14}{13,14,15}$ = ______

Incorrect Response $\frac{15}{13,14,15}$ = ______

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ______

Bad Eval $\frac{15/9,10,11}{15}$ = ______

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ______

Direct Control $\frac{16/(1,2,3,\text{or } 4)}{16}$ = ______

Socialization $\frac{12,16}{\text{Total}}$ = ______

Therapy Evaluation

	No	Yes
A Good Session	1--2--3--4--5--6--7--8--9	
Therapist Effective	1--2--3--4--5--6--7--8--9	
Client Effective	1--2--3--4--5--6--7--8--9	

Client Effectiveness Measures ____________=____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING
THERAPY SESSION SCORING FORM

Clinician: ______
Client: ______
Date: ______

Category Counts			Category Counts		
Category	# of Events	% of Total	Category	# of Events	% of Total
1	______	______	13	______	______
2	______	______	14	______	______
3	______	______	15	______	______
4	______	______	16	______	______
5	______	______	17	______	______
6	______	______	18	______	______
7	______	______	19	______	______
8	______	______			
9	______	______			
10	______	______			
11	______	______			
12	______	______			
Clinician Total	______	______	Client Total	______	______

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	______
14/(5,6,or 7)	______
15/(9,10,11)	______
16/(1,2,3,or 4)	______

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ______

Approximation $\frac{14}{13,14,15}$ = ______

Incorrect Response $\frac{15}{13,14,15}$ = ______

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ______

Bad Eval $\frac{15/9,10,11}{15}$ = ______

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ______

Direct Control $\frac{16/(1,2,3,\text{or } 4)}{16}$ = ______

Socialization $\frac{12,16}{\text{Total}}$ = ______

Therapy Evaluation

	No	Yes
A Good Session	1--2--3--4--5--6--7--8--9	
Therapist Effective	1--2--3--4--5--6--7--8--9	
Client Effective	1--2--3--4--5--6--7--8--9	

Client Effectiveness Measures ____________ = ____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
Clinician Total		

Category Counts

Category	# of Events	% of Total
13		
14		
15		
16		
17		
18		
19		
Client Total		

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	
14/(5,6,or 7)	
15/(9,10,11)	
16/(1,2,3,or 4)	

Ratio Scoring

Correct Response	$\frac{13}{13,14,15}$ =	
Approximation	$\frac{14}{13,14,15}$ =	
Incorrect Response	$\frac{15}{13,14,15}$ =	
Good Eval	$\frac{13,14/5,6,7}{13,14}$ =	
Bad Eval	$\frac{15/9,10,11}{15}$ =	
Inappropriate	$\frac{16,19}{13,14,15,16,19}$ =	
Direct Control	$\frac{16/(1,2,3,or\ 4)}{16}$ =	
Socialization	$\frac{12,16}{Total}$ =	

Therapy Evaluation

	No Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective	1--2--3--4--5--6--7--8--9
Client Effectiveness Measures	____________=____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	____	____
2	____	____
3	____	____
4	____	____
5	____	____
6	____	____
7	____	____
8	____	____
9	____	____
10	____	____
11	____	____
12	____	____
Clinician Total	____	____

Category Counts

Category	# of Events	% of Total
13	____	____
14	____	____
15	____	____
16	____	____
17	____	____
18	____	____
19	____	____
Client Total	____	____

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	____
14/(5,6,or 7)	____
15/(9,10,11)	____
16/(1,2,3,or 4)	____

Ratio Scoring

Correct Response $\frac{13}{13,14,15} =$ ____

Approximation $\frac{14}{13,14,15} =$ ____

Incorrect Response $\frac{15}{13,14,15} =$ ____

Good Eval $\frac{13,14/5,6,7}{13,14} =$ ____

Bad Eval $\frac{15/9,10,11}{15} =$ ____

Inappropriate $\frac{16,19 \;=}{13,14,15,16,19}$ ____

Direct Control $\frac{16/(1,2,3,or\ 4)}{16} =$ ____

Socialization $\frac{12,16}{\text{Total}} =$ ____

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ________ = ________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
Clinician Total		

Category Counts

Category	# of Events	% of Total
13		
14		
15		
16		
17		
18		
19		
Client Total		

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	
14/(5,6,or 7)	
15/(9,10,11)	
16/(1,2,3,or 4)	

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ______

Approximation $\frac{14}{13,14,15}$ = ______

Incorrect Response $\frac{15}{13,14,15}$ = ______

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ______

Bad Eval $\frac{15/9,10,11}{15}$ = ______

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ______

Direct Control $\frac{16/(1,2,3,or\ 4)}{16}$ = ______

Socialization $\frac{12,16}{Total}$ = ______

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ____________ = ____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING
THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
Clinician Total		

Category Counts

Category	# of Events	% of Total
13		
14		
15		
16		
17		
18		
19		
Client Total		

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	
14/(5,6,or 7)	
15/(9,10,11)	
16/(1,2,3,or 4)	

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ____

Approximation $\frac{14}{13,14,15}$ = ____

Incorrect Response $\frac{15}{13,14,15}$ = ____

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ____

Bad Eval $\frac{15/9,10,11}{15}$ = ____

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ____

Direct Control $\frac{16/(1,2,3,or\ 4)}{16}$ = ____

Socialization $\frac{12,16}{Total}$ = ____

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ____________ = ____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
Clinician Total		

Category Counts

Category	# of Events	% of Total
13		
14		
15		
16		
17		
18		
19		
Client Total		

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	
14/(5,6,or 7)	
15/(9,10,11)	
16/(1,2,3,or 4)	

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ______

Approximation $\frac{14}{13,14,15}$ = ______

Incorrect Response $\frac{15}{13,14,15}$ = ______

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ______

Bad Eval $\frac{15/9,10,11}{15}$ = ______

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ______

Direct Control $\frac{16/(1,2,3,\text{or } 4)}{16}$ = ______

Socialization $\frac{12,16}{\text{Total}}$ = ______

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ______________ = ______________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	____	____
2	____	____
3	____	____
4	____	____
5	____	____
6	____	____
7	____	____
8	____	____
9	____	____
10	____	____
11	____	____
12	____	____
Clinician Total	____	____

Category Counts

Category	# of Events	% of Total
13	____	____
14	____	____
15	____	____
16	____	____
17	____	____
18	____	____
19	____	____
Client Total	____	____

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	____
14/(5,6,or 7)	____
15/(9,10,11)	____
16/(1,2,3,or 4)	____

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ____

Approximation $\frac{14}{13,14,15}$ = ____

Incorrect Response $\frac{15}{13,14,15}$ = ____

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ____

Bad Eval $\frac{15/9,10,11}{15}$ = ____

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ____

Direct Control $\frac{16/(1,2,3,\text{or } 4)}{16}$ = ____

Socialization $\frac{12,16}{\text{Total}}$ = ____

Therapy Evaluation

	No		Yes
A Good Session	1--2--3--4--5--6--7--8--9		
Therapist Effective	1--2--3--4--5--6--7--8--9		
Client Effective	1--2--3--4--5--6--7--8--9		
Client Effectiveness Measures	____ = ____		

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	______	______
2	______	______
3	______	______
4	______	______
5	______	______
6	______	______
7	______	______
8	______	______
9	______	______
10	______	______
11	______	______
12	______	______
Clinician Total	______	______

Category Counts

Category	# of Events	% of Total
13	______	______
14	______	______
15	______	______
16	______	______
17	______	______
18	______	______
19	______	______
Client Total	______	______

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	______
14/(5,6,or 7)	______
15/(9,10,11)	______
16/(1,2,3,or 4)	______

Ratio Scoring

Correct Response $\frac{13}{13,14,15}$ = ______

Approximation $\frac{14}{13,14,15}$ = ______

Incorrect Response $\frac{15}{13,14,15}$ = ______

Good Eval $\frac{13,14/5,6,7}{13,14}$ = ______

Bad Eval $\frac{15/9,10,11}{15}$ = ______

Inappropriate $\frac{16,19}{13,14,15,16,19}$ = ______

Direct Control $\frac{16/(1,2,3,\text{or } 4)}{16}$ = ______

Socialization $\frac{12,16}{\text{Total}}$ = ______

Therapy Evaluation

	No — Yes
A Good Session	1--2--3--4--5--6--7--8--9
Therapist Effective	1--2--3--4--5--6--7--8--9
Client Effective	1--2--3--4--5--6--7--8--9
Client Effectiveness Measures	____________ = ____________

COMMENTS:

NINETEEN CATEGORY SPEECH AND HEARING
THERAPY SESSION SCORING FORM

Clinician:
Client:
Date:

Category Counts

Category	# of Events	% of Total
1	____	____
2	____	____
3	____	____
4	____	____
5	____	____
6	____	____
7	____	____
8	____	____
9	____	____
10	____	____
11	____	____
12	____	____
Clinician Total	____	____

Category Counts

Category	# of Events	% of Total
13	____	____
14	____	____
15	____	____
16	____	____
17	____	____
18	____	____
19	____	____
Client Total	____	____

Sequence Counts

Sequence	# of Events
13/(5,6,or 7)	____
14/(5,6,or 7)	____
15/(9,10,11)	____
16/(1,2,3,or 4)	____

Ratio Scoring

Correct Response	$\frac{13}{13,14,15}$ =	____
Approximation	$\frac{14}{13,14,15}$ =	____
Incorrect Response	$\frac{15}{13,14,15}$ =	____
Good Eval	$\frac{13,14/5,6,7}{13,14}$ =	____
Bad Eval	$\frac{15/9,10,11}{15}$ =	____
Inappropriate	$\frac{16,19}{13,14,15,16,19}$ =	____
Direct Control	$\frac{16/(1,2,3,\text{or } 4)}{16}$ =	____
Socialization	$\frac{12,16}{\text{Total}}$ =	____

Therapy Evaluation

	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Therapist Effective	1	2	3	4	5	6	7	8	9
Client Effective	1	2	3	4	5	6	7	8	9

Client Effectiveness Measures ____________ = ____________

COMMENTS:

BIBLIOGRAPHY

Boone, Daniel R. and Goldberg, Alvin A. *An Experimental Study of the Clinical Acquisition of Behavioral Principles by Videotape Self-Confrontation*. Final Report to US Office of Education (OEG-8-071319-2814), Division of Research, Bureau of Education of the Handicapped, University of Denver, Denver, 1969.

Boone, Daniel R. and Prescott, Thomas E. *Application of Videotape and Audiotape Self-Confrontation Procedures to Training Clinicians in Speech and Hearing Therapy*. Final report to US Office of Education (OEG-0-70-4758-607), Division of Research, Bureau for Education of the Handicapped. University of Denver, Denver, 1971.

Boone, Daniel R. and Stech, Ernest L. *The Development of Clinical Skills in Speech Pathology by Audiotape and Videotape Self-Confrontation*. Final Report to US Office of Education (OEG-9-071318-2814), Division of Research, Bureau for Education of the Handicapped. University of Denver, Denver, 1970.

Prescott, Thomas E. *The Development of a Methodology for Describing Speech Therapy*. Unpublished Doctoral Dissertation, University of Denver, Denver, 1970.

Stech, Ernest L. *A Set of Learning Theory Categories for Analyzing the Speech Therapy Situation: A Manual for Scoring Video and Audio Tapes*. Unpublished Manual, University of Denver, Denver, 1969.

APPENDIX G

"Content and Sequence Analyses of Speech and Hearing Therapy"

CONTENT AND SEQUENCE ANALYSES OF SPEECH AND HEARING THERAPY

DANIEL R. BOONE AND THOMAS E. PRESCOTT*

University of Denver

By use of either videotape or audiotape replay, it is possible for the speech and hearing clinician to analyze the content and sequence of events in his therapy. Through such taped playback, also, the clinician in training can study the therapy of master clinicians, he can study various parameters of the clinical process, or he can confront himself and analyze his own therapy sessions. The experienced clinician can, by using a scoring instrument with playback, study his own interaction with his clients—clinician effects on client and client effects on clinician.

A therapy-scoring instrument used with tape replay enables the supervisor to quantify the events and the sequence of events in therapy. While historically the field of speech pathology and audiology has placed its clinical focus on client pre- and postevaluation, little emphasis has been given to evaluating the extensive therapy process which lies between the pre- and posttesting of clients.

Both videotape and audiotape confrontation have been found effective in training speech and hearing clinicians, when such student clinicians were instructed in using some kind of scoring matrix to quantify the events of their therapy (Boone and Stech, 1970). A scoring system provides the student with a focused feedback, permitting him to analyze the specific events of his therapy (Stoller, 1967). By using a therapy scoring system, Stech[1] found it possible for the clinician to determine the number of events he contributes to the session as opposed to the number of events performed by the client. More importantly, he can quantify the total clinician-client interaction of a session sample, determining client behaviors resulting in part from what he says or does, as well as specifying his own responses to client behaviors. Such content and sequence analysis systems for scoring two-person interactions have been developed and utilized by Bales (1950), Rabow (1965), Amidon and Flanders (1967), Carroll (1967), Barker and Wright (1967), and Johnson (1969), who developed a 40-category system for analyzing speech therapy sessions.

Prescott (1970) found in analyzing numerous therapy tapes, scored by the Stech and the Boone and Goldberg (1969) scoring methods, that the number of different events in therapy correlated highly with the total time of each event. The Prescott data show that timing of therapy events during the scoring of a therapy session does not provide any more data to the scorer than the mere frequency summation of events. Using a scoring system for studying the events of therapy in the Speech and Hearing Center at the University of Denver, we have found that the typical student clinician can learn to score his own sessions reliably after a relatively short training period of no more than two hours (live scoring results correlate 0.9 with scoring of a panel of judges).

The sample scoring system presented here is an example of a content and sequence analysis system for studying speech and hearing therapy. Other systems (Prescott, 1970; Johnson, 1969; and Diedrich, 1970) basically employ similar systems of analyses, using category matrices to classify events in therapy. The category system described here was originally developed by Stech and has been modified to fit the training needs of the present authors.

A 10-CATEGORY SYSTEM

When a therapy session is studied by employing this system, each event of therapy can be placed into one of 10 categories. Each category and its definition are listed below:

Category Number		
1	Explain, Describe	Clinician describes and explains the specific goals or procedures of the session.
2	Model, Instruction	Clinician specifies client behavior by direct modeling or by specific request.
3	Good Evaluative	Clinician evaluates client response and indicates a verbal or nonverbal approval.
4	Bad Evaluative	Clinician evaluates client response as incorrect and gives a verbal or nonverbal disapproval.
5	Neutral-Social	Clinician engages in behavior which is not therapy-goal oriented.
6	Correct Response	Client makes a response which is correct for clinician instruction or model.
7	Incorrect Response	Client makes incorrect response to clinician instruction or model.
8	Inappropriate-Social	Client makes response which is not appropriate for session goals.
9	Good Self-Evaluative	Client indicates awareness of his own correct response.
10	Bad Self-Evaluative	Client indicates awareness of his own incorrect response.

---

[1] E. L. Stech, personal communication (1968).

* DANIEL R. BOONE, Ph.D., is Professor of Speech Pathology, and THOMAS E. PRESCOTT is an assistant professor at the University of Denver.

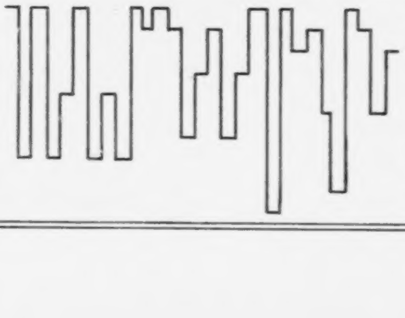
Reprinted from February, 1972 *ASHA*, Volume 14, No. 2

PROCEDURES FOR USING CATEGORY SYSTEM

An average of about 15% of a speech and hearing therapy session is lost with audiotape confrontation alone; that is, the scorer will miss about that percentage of nonverbal events as compared with videotape scoring (Boone and Stech, 1970). Nevertheless, the practicality of using the audiotape recorder over the videotape recorder in many clinical settings, such as in the schools, makes audiotape confrontation a popular device for self-supervision, or for the supervisor studying the clinician, alone or with that clinician. The following procedures for using either videotape or audiotape confrontation in self or external supervision have been found to be highly workable:

1. The clinician records the middle 20 minutes of his therapy, using a videotape or audiotape recorder. Experience and investigation using these confrontation devices have found that the first five minutes and the last five minutes of a half-hour therapy session are not particularly representative of the whole session. Our investigations (Boone and Goldberg, 1969) have also found that a five-minute segment, selected either randomly or specifically because the clinician wishes to study a particular part of his therapy, will offer about as much information as scoring the total 20-minute segment. In any case, record approximately 20 minutes of therapy.
2. Select for playback and study about a five-minute segment from the total 20-minute recording. This segment should be studied as soon after the session is completed as possible, particularly in self-confrontation. Whenever possible, playback should not be deferred more than one day from taping.
3. The clinician views and hears or hears his total five-minute segment first with no attempt to score what he sees or hears. He then plays back the five-minute segment and scores the segment using a 10-category system analysis. An experienced scorer can do this with a minimum of stop-starting of the playback. A typical scoring form is shown in Table 1, and its use is described under "Sample Transcript and Scoring." Scoring a typical five-minute segment takes a total of about seven to eight minutes.

TABLE 1. A representation of the practice scoring form.

Categories	*Scoring*	*Total*
1. Explain		8
2. Model		5
3. Good		2
4. Bad		2
5. Social		2
6. Correct		2
7. Incorrect		2
8. Social		4
9. Good Self		1
10. Bad Self		1

4. The total number of events scored in the session and the particular sequences of events are then summarized on the speech and hearing therapy session scoring form, as shown in Table 2. This permits the clinician to determine, for example, how many of the therapy events he did, how many the client did, and the client's percentage of correct responses. By computing a few ratios with his total number of events in particular categories he can find such information as the ratio of his good evaluative reinforcements, bad evaluative responses, and socialization within session. The average time for determining the summary data on the session scoring form is also about seven or eight minutes.
5. The total time required for tape playback, scoring, and summary tabulation should not exceed 20 minutes.

SAMPLE TRANSCRIPT AND SCORING

The authors have developed the following transcript of a brief section of a therapy session to illustrate the various scoring categories of our analysis system:

Category Number	*Speaker*	*Dialogue*
1	Clinician	Well, today, Biffie, we're going to go over our /r/ words.
8	Client	We're going to go skiing over the weekend.
1	Clinician	You'll have a lot of time to practice your new /r/ sound up there.
8	Client	We get to stay up until Monday morning. So I won't be here next week.
5, 1	Clinician	Let's talk about the ski trip when you get back. Today I want us to get some work in.
8	Client	You never want to talk anymore.
5	Clinician	We just don't have the time to talk so much, Biffie.
8	Client	Your face looks all mad today.
1	Clinician	Biffie, we'll start saying our /r/ words now. I'll turn on the recorder and if we get a good one, we'll play it back and let you hear it.
2	Recorder	Rah, rah, rah.
1	Clinician	Say the words after me, now, Biffie. I want to hear those /r/s coming through.
2	Recorder	Rah, rah, rah.
7	Client	Wah, wah, wah.
4	Clinician	I don't want "wahs."
2	Recorder	Rah, rah, rah.
7	Client	Wah, wah, wah, wah.
4	Clinician	Nope. You're rounding your lips too much.

10	Client	I never could say it right.
1, 3	Clinician	Did I hear you say "right"? That was a perfect /r/, Biffie.
2		Say, "Right, right, right."
6	Client	Right, right, right.
9		Hey, how come that /r/ is so good?
1	Clinician	Let's hear that good /r/ again.
2	Recorder	Right, right, right.
6	Client	Right, right, right.
3	Clinician	Now you've got it just the way we want it.

This hypothetical dialogue is scored using a 10-category system as seen in Table 1. A continuous line from one category to another has been demonstrated to be a faster method of scoring. The number of occurrences for each category—each row—are then totaled and summarized on the right margin of the scoring form. These totals are then transferred to the session scoring form (Table 2).

The continuous-scoring method enables the scorer to count the number of individual categories occurring within that taped segment. The sequence of particular categories can then be determined. These session summaries provide the clinician or his supervisor with quantification about the events of the session. The meaning of the values obtained must be related to factors such as the overall progress of the client, the dynamics of the particular session, and the goal of the session. The hypothetical therapy dialogue, as represented in the scoring in Table 1, is summarized in Table 2. Besides the data obtained from category analysis, note how the clinician rates the overall effectiveness of the session, of self, and of the client; note, also, how any subjective data—such as number of correct articulations—adds information for the particular session.

One can quickly note these observations about this particular therapy session. The clinician explained and modeled behavior for the client for 45% of the session; the clinician occupied 66% of the events of the session; the child experienced 50% success and 50% failure;

TABLE 2. A representation of the speech and hearing therapy session scoring form.

Clinician: Jane Clark
Client: Biffie C.
Date: 3-2-71

Speech and Hearing Therapy Session Scoring Form

Category Counts 29

Category	No. of Events	% of Total
1	8	28
2	5	17
3	2	7
4	2	7
5	2	7
Clinician Total	19	66

Category Counts 29

Category	No. of Events	% of Total
6	2	7
7	2	7
8	4	14
9	1	3
10	1	3
Client Total	10	34

Sequence Counts

Sequence	No. of Events
6/3	1
7/4	2
8/1, 2	2

Ratio Scoring

Correct Response	$\frac{6}{6, 7}$	=	0.50
Incorrect Response	$\frac{7}{6, 7}$	=	0.50
Good Eval. Ratio	$\frac{6/3}{6}$	=	0.50
Bad Eval. Ratio	$\frac{7/4}{7}$	=	1.00
Inappro. Response	$\frac{8}{6, 7, 8}$	=	0.50
Direct Control	$\frac{8, 1, 2}{8}$	=	0.50
Socialization	$\frac{5 + 8}{\text{Total}}$	=	0.21

Therapy Evaluation	No								Yes
A Good Session	1	2	3	4	5	6	7	8	9
Clinician Effective	1	2	3	4	5	6	7	8	9
Client Effective Progress	1	2	3	4	5	6	7	8	9

Client Effective Measures 20 = 6 Correct
___ = ______

Comments: Client was restless, difficult to control today.

socialization characterized 21% of the total session. The clinician let the child know 100% of the time when he was incorrect; 50% of the child's total responses to direct requests were conversational and inappropriate to the goals of the session; 50% of the child's socializations were followed by the clinician's directing the session. This total sample segment would run "live" about one minute. Therefore, in an actual scoring session of a five-minute segment, the scorer would probably have four or five times the total number of events shown here. Increased category observations are handled, however, in the same manner. Value judgments, specific to what the category counts and sequences mean, must be applied to the values obtained. The scoring system is only a measurement tool which will enable a clinician to study a therapy session. It can make him aware of his behaviors and tell him what his clients do. How much of any one event or sequence of events he wants to do in any one session, the clinician or his supervisor must determine. For example, in this therapy segment scored, we might judge that the child should have enjoyed a slightly higher success rate. Maybe the task of saying, "Rah, rah, rah," was too difficult for the child or was inappropriate for his interest; for whatever reason, he was totally unable to do it.

Using data from a base rate tabulation sheet (see Table 3), the clinician can graph, over time, the individual therapy sessions scored. Such a summary graph shows the changes in performance from session to session and over longer periods of time.

This type of content and sequence analysis can make us aware as clinicians of what we are doing and what our clients are doing. If we think we have a good session, or a bad one for that matter, we should be able to quantify the events of the session and make some kind of quantitative determinant about session effectiveness. Through such an analysis, we can then determine some of the dimensions of our effectiveness. In the case of the hypothetical clinician described previously, we might speculate that the high number of eight category responses by the client indicates that for this particular task the child does not appear particularly motivated. Perhaps this lack of enthusiasm for the task is related to his high rate of failure (50% of his responses to session goals were incorrect), or perhaps his enthusiasms were focused on the coming ski trip. Such a scale cannot identify the "why" of the data responses, but it can describe what happened in the session.

DISCUSSION

Speech and hearing clinicians in every setting are being asked the question, "Do we know that what we do as clinicians does any good?" We usually validate our effectiveness by looking at pre- and posttest comparisons. More recently, we have begun to take therapy baselines of specific client responses, and then throughout therapy we might make sequential plots of client responses to specific tasks, as well described by Shelton, Arndt, and Elbert (1967a, b). Or a measure of therapy effectiveness may be determined by comparing severity ratings or judgments made after listening to pretherapy and posttherapy tape recordings. While we are often convinced that our therapy has done some good—other listeners may lack the same conviction—we never know for sure just what we did or did not do in therapy which helped produce the desired change. Similarly, we recognize the work of the master clinician, and we can make judgments as to who is "good" and who is "poor," but the exact dimensions that helped us make these judgments are never clearly known. A category system, such as the content and sequence analyses procedures described here, can give us additional data about our therapy. To our present methods of testing, therapy procedures, keeping therapy logs, and conventional supervision, we can add some quantitative aspects about our therapy. We can become more aware of what we do and of the effects of what we do.

TABLE 3. A tabular representation of part of the clinician base rate tabulation sheet. The complete form also includes columns to the right for Sessions 2 through 16.

Factor Tabulated	*Tabulation, by Session*
	Sess. 1
% of Total No. of Events, by Category	
Cat. 1	28
2	17
3	7
4	7
5	7
6	7
7	7
8	14
9	3
10	3
% of Total No. of Events Accounted for by Clinician	66
% of Total No. of Events Accounted for by Client	34
Correct Response Ratio	0.50
Incorrect Response Ratio	0.50
Good Evaluative Ratio	0.50
Bad Evaluative Ratio	1.0
Inappro. Response Ratio	0.50
Direct Control Ratio	0.50
Socialization Ratio	0.21
Therapy Eval. Over Time	–
Session Quality Rating	3
Clinician Effectiveness Rating	3
Client Progress Rating	4

In three years of developing and using several category systems with clinicians in a training program, we are using our matrices to determine various dimensions of therapy. For example, our analyses have told us that experienced clinicians let their clients know when their responses are incorrect, providing the client a noticeably higher rate of "bad evaluatives"—punishment—than the new clinician does. We have found that successful therapy is usually characterized by a 60 to 80% client success rate, and that therapy must be designed so that our clients experience this percentage of correct responses. We have found that keeping track of our good evaluatives and bad evaluatives makes us more powerful trainers; we vary our rate of reinforcement or the intensity of our reinforcement specific to the changes of the client's correct and incorrect response rate. Some of our therapy sessions are characterized by an unusual amount of social-neutral conversation—much Category 5 and 8 behavior; sometimes this is desirable, and sometimes this amount of conversation is excessive and not consistent with the goals of the session. Whatever observation we make in our category and sequence counts, we find out what we are doing. The meaning of any measured value must be provided by the supervisor or the clinician himself. The scoring matrix is only like a ruler, a tool of measurement; the measurement itself may have little meaning. The meaning of the measurement itself may vary with such factors as the clinical philosophy of the clinician or the supervisor, or the individual dynamics of the session being studied.

The question may be asked, Are there sequences of clinical events that are unique to the different parameters of communication disorder? This was answered in part by Prescott (1970), who utilized content and sequence analysis to describe speech therapy with clients in four communication disorders parameters: articulation, voice, language, and prosody. While the number of subjects was too small to generalize to larger populations, these data suggested differences and similarities in the therapy sequences used relative to the individual parameters studied. Differences and similarities were also noted between experienced and student clinician performance. Data of this nature may one day aid us in making value judgments about "good" and "poor" therapy specific to clinical parameters and the experience of the clinician.

SUMMARY

By use of either videotape or audiotape replay, the speech and hearing clinician can analyze the content and sequence of events in therapy. Previous studies (Boone and Goldberg, 1969; Boone and Stech, 1970) have demonstrated videotape and audiotape confrontation to be effective tools in training clinical personnel. For analysis of speech and hearing therapy sessions, a 10-category system that allows for quantifiable description of the events contained in the session or sessions studied is described. Procedures for utilizing the scoring technique are outlined. This type of content and sequence analysis can make us aware as clinicians of what we are doing in therapy as well as what our clients are doing.

REFERENCES

Amidon, E. J., and Flanders, N. A., *Interaction Analysis: Theory, Research and Application*. Reading, Mass.: Addison-Wesley (1967).

Bales, R. F., *Interaction Process Analysis: A Method for the Study of Small Groups*. Reading, Mass.: Addison-Wesley (1950).

Barker, R. G., and Wright, H. F., *Recording and Analyzing Child Behavior: With Ecological Data from an American Town*. New York: Harper and Row (1967).

Boone, D. R., and Goldberg, A., *An Experimental Study of the Clinical Acquisition of Behavioral Principles by Videotape Self-Confrontation*. Final Report, Project No. 4071, Grant No. OEG 8-071319-2814, U.S. Department of Health, Education, and Welfare. Division of Research, Bureau of Education for the Handicapped, Office of Education (1969).

Boone, D. R., and Stech, E. L., *The Development of Clinical Skills in Speech Pathology by Audiotape and Videotape Self-Confrontation*. Final Report, Project No. 1381, Grant No. OEG-9-071318-2814, U.S. Department of Health, Education, and Welfare. Division of Research, Bureau of Education for the Handicapped, Office of Education (1970).

Carroll, M. A., An instrument for analyzing activities of guidance personnel. *Counselor Educ. Supervision*, **6**, 201-204 (1967).

Diedrich, W. M., *The Use of a Multidimensional Clinical Process Scoring System for Training Students in Speech Pathology*. Paper presented at meeting, "Videotape and Audiotape Confrontation in Clinical Training." University of Denver, Denver, Colorado (1970).

Johnson, T. S., *The Development of a Multidimensional Scoring System for Observing the Clinical Process in Speech Pathology*. Doctoral dissertation, Univ. Kansas (1969).

Prescott, T. E., *The Development of a Methodology for Describing Speech Therapy*. Doctoral dissertation, Univ. Denver (1970).

Rabow, J., Quantitative aspects of the group-psychotherapist; role behavior: A methodological note. *J. soc. Psychol.*, **67**, 31-37 (1965).

Shelton, R. L., Arndt, W. B., and Elbert, M., A task for evaluation of articulation change: I. Development of methodology. *J. Speech Hearing Res.*, **10**, 281-288 (1967a).

Shelton, R. L., Arndt, W. B., and Elbert, M., A task for evaluation of articulation change: II. Comparison of task scored during baseline and lesson series testing. *J. Speech Hearing Res.*, **10**, 578-585 (1967b).

Stoller, F. H., Closed circuit television and videotape for group psychotherapy with chronic mental patients. *Amer. Psychol.*, **22**, 158-162 (1967).